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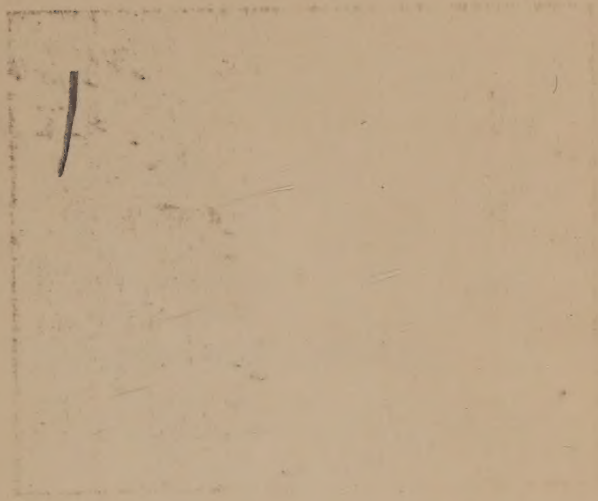

REASON AND BELIEF

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REASON AND BELIEF

BY

SIR OLIVER LODGE

NEW YORK
MOFFAT, YARD AND COMPANY
1910

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ARTHUR JAMES BALFOUR

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THIS LITTLE BOOK IS DEDICATED BY

HIS FRIEND THE AUTHOR

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PREFACE

THE converging influence of discoveries made during the nineteenth century in many diverse departments of knowledge has of late years notably increased the uncertainty which thoughtful persons have often felt about the best method of utilising Old Testament narratives for the education and edification of children. So much has had to be modified or discarded, in deference to scientific discoveries which are in process of popular assimilation, that a hesitating cautious attitude is not only reasonable but meritorious. Nor has the difficulty been altogether confined to the oldest writings; it cannot be maintained that general conviction of the truth of the cardinal doctrines of the New Testament has remained quite unshaken.

In so far, however, as my own researches have led me to perceive a profound substratum of truth underlying ancient doctrines, and in so far as the progress of science instead of undermining actually illustrates and illumines

some of them, I conceive it to be my duty as well as my privilege to indicate to the best of my ability how matters stand.

Utterance on my part is excused and indeed justified by the fact that in the University with which I am connected a large number of teachers are being trained every year for their responsible office; and accordingly, acting in conjunction with my friend and colleague the Professor of Philosophy, J. H. Muirhead, I have addressed them from time to time, and have now written down part of the substance of such discourses, in the hope that it may be useful to others.

Part I. of this book deals with the subject of incarnation in general, and ultimately leads up to a brief consideration of the momentous Christian doctrine — The Incarnation.

Part II. furnishes hints and suggestions for the effective treating of the Old Testament in the light of the doctrine of Evolution.

Part III. is of the nature of an Apologia and anticipatory reply to critics.

The work is not argumentative, it is expository. The arguments and facts of experience on which the teaching is based, the lines on

which I have been led to the position here indicated and sustained, must be narrated elsewhere; partly in the Proceedings of a Scientific Society, partly in other books. The position taken in this book is the result of a lifetime of scientific study; and its basis is one of fact. It may be that the facts have been misinterpreted: if so, then for that misinterpretation I am responsible; but I venture to hope that they have led me a few steps onward in the direction of the truth. It is because this is my conviction that I have presumed to undertake the exposition, incidentally illustrating it from the writings of such thinkers as have preceded me in the quest, and have arrived at the same sort of ideas by other paths.

For this is characteristic of truth, that it may be reached by many diverse routes; and although its ultimate peaks are inaccessible, yet its strenuous disciples, however far apart they are at the start, and however roundabout their journey, may hope to meet on such intermediate and temporary summits as can be attained at the present stage of earthly existence.

Oliver Lodge.

September, 1910.

REASON AND BELIEF

PART I

INCARNATION

'Oh could I tell ye surely would believe it!
Oh could I only say what I have seen!
How should I tell or how can ye receive it,
How, till He bringeth you where I have been?

Whoso hath felt the Spirit of the Highest
Cannot confound nor doubt Him nor deny;
Yea with one voice, O world, tho' thou deniest,
Stand thou on that side, for on this am I.'

F. W. H. Myers, *St. Paul.*

INCARNATION [1]

CHAPTER I

CONTINUITY AND PERSISTENCE

THERE is no real end to anything in the Universe, no end to any real existence; nor is there any beginning. We can illustrate this by considering the history of a rock — say a sandstone rock for simplicity. It is formed of compacted sand; but the sand particles are fragments of a pre-existing rock, ground to powder by the waves; that rock too was composed of compacted sand,— and so on. We find a continuance of the same material, scattered and re-formed, changed in condition of aggregation, yet essentially the same. Such considerations clearly lead to no beginning.

Or consider a cloud.— It manifests itself in

[1] Being the expanded substance of a Sunday afternoon address to working men.

the sky, seems to spring into existence out of the blue, and presently evaporates again and ceases to be, as a cloud; but as invisible vapour it continues, and as aqueous vapour it existed before it condensed into minute drops of liquid — *i.e.*, before it took shape and form and became visible. In essence it exists all the time, and the persistent material can form another cloud, or rain, or it can flow as a river, or can enter the sea,— but only to be evaporated again in due time, and go through an eternal cycle of changes.

So also look at a piece of wood burning in the fire. It was formed originally from sap elaborated in the leaves of a tree, through the chemical influence and energy of sunlight. It was composed out of carbonic acid and water, drunk in by the roots, taken up into the laboratory of the leaves, and there decomposed by sunlight, the oxygen being separated and liberated and expelled into the air. And now that the wood is burning, its carbon and hydrogen are re-combining with oxygen, thereby becoming gaseous again, and so restoring to the atmosphere the carbonic acid and water out of which the tree was formed. The same identical

particles of carbon and hydrogen thus escape and are scattered; but presently some of them will be incarnate again in visible and tangible form, through a repeated operation of the same agency, and may form part of some other kind of plant; or other things may happen to them. They may go through multifarious adventures — always retaining their identity, though not their state of aggregation or grouping.

Or take the case of the earth.— But you will say, the earth had a beginning and will have an end. Yes, as an individual assemblage of particles it has a beginning and an end. So have the tree and the cloud and the rock. Any individual rock — the Wrekin, the Matterhorn — can be named and identified and its history traced; and we may suppose that geologists could tell us approximately not only when it arose but when it will once more be submerged under the sea. Every individual collocation or collection of particles has a beginning and an end; but only as a collection. This congregation, for instance, began at 3 o'clock and will end at 4, but its members do not go out of existence when they leave, nor was their arrival the beginning of their life.

So it is with a planet or a solar system; they represent a present phase or manifestation, in a continuous unending existence. We see in the sky nebulæ, apparently in the act of slowly forming solar systems; we also see in the sky collisions, or the result of collisions, such as apparently are not unlikely to reconstitute nebulæ. We see many stages in the process of evolution, as was discovered by Sir William Herschel a century ago,— some stars bright, others dark,— suns of every age, young and old, nascent, vigorous, and effete; — we see a cycle of changes, but nothing to suggest a beginning, nor yet an end,[1] except as affecting individual temporary assemblages.

The human race had a beginning,— the descent of man, his ancestry and antecedents, can be studied,— and at some epoch he must have become what we call distinctively human; but the species must have had antecedents before that. So it is also for an individual — in even

[1] The law of the dissipation of energy is often appealed to as necessitating a beginning and an end. I have elsewhere given reasons for dissenting from that view; but inasmuch as it is a moot point, the caution ought to be obtruded here, — the law, properly stated, is true enough, but the deduction from it is uncertain.

a closer and deeper sense. Seen from the terrestrial point of view,

> 'His life is a watch or a vision
> Between a sleep and a sleep.'

But that which now appears to us as sleep — sleep from which there is no waking — may really be the prelude to a state of keen activity. For sleep need not be dreamless; the spirit of an entranced person may be, and sometimes is, in an exceptional state of activity. Quiescence of the body is no guarantee of quiescence of the soul; nor does death of the body convey any assurance of the soul's decease. Every physical analogy is against such a superficial notion. (See, for instance, 'Life and Matter,' where the subject is further developed.)

John Smith was born a few years ago and will die, but he will not go into nothingness; and though as an individual he began at birth, it is not likely that he, any more than anything else, began from nothing. The complexity of his organism, the far-reaching quality of his mind, combined with what we know of the leisurely processes of Nature, forbid the idea of construction elaborated in such fantastic

haste. The body has been formed to a given pattern, quickly enough; so may a plant grow with great rapidity; but there must be some entity — even though it be only a germinal vesicle — which collects and arranges the particles to suit itself. The specific form of the structure depends on this entity, not on the miscellaneous sources of the particles. Some kinds of material can be utilised, some can not: those which have been good for food serve their turn for a time and then are discarded again; but it is the arranging entity for which we postulate continuous existence. It is this of which we may seek to trace the continuous and perennial history. The discarded body looks dead and dismal enough, but that is only because the energising spirit which constructed it has gone beyond our ken: —

'He that hath found some fledg'd bird's nest, may know
At first sight if the bird be flown;
But what fair well or grove it sings in now,
That is to him unknown.'

Unknown, yes, but not therefore unreal; — all analogy is against the idea of disappearance being synonymous with destruction. Death is

change, indeed,— a sort of emigration, a wrenching away from old familiar scenes, a solemn and portentous fact,— but it is not annihilation. No thoughtful person can really and consistently believe that he is destined

> 'To drop head foremost in the jaws
> Of vacant nothing, and to cease.'

Of every kind of individual existence with a history — with an origin and a termination — we must ask, what before? and what after? For some kinds of existence we can answer these questions; for others, not. But we know that beyond their manifest history there must always be an infinite past and an infinite future; and hidden antecedents and sequents may in time be traced.

The experience and memory of the past survive in our very organisation; we are the product of evolution through the ages. Conscious memory may fail — does fail,— but the effect of experience lasts.

And it does not follow that our conscious memory will always fail; individuality once begun shall not again completely cease. Tennyson foresees no 're-merging in the general

soul ' ; but rather a continuance of those essential characteristics by which men are known to their friends,—

> ' Eternal form shall still divide
> The Eternal soul from all beside;
> And I shall know him when we meet.'

It is not indeed likely that personality will ever cease, if we recollect what elements go to constitute a personality. They are the most permanent and characteristic, the most vital and essential, elements in our constitution. Individuality is never lost, unless it be in some ultimate and far distant completion and richest fruition of our being, ' upon the last and sharpest height,' by evanescence and absorption into Deity. Then, and only then — an infinitude beyond our present state — shall we ' lose ourselves in light.'

CHAPTER II

THE ADVENTURE OF EXISTENCE

IT is a commonplace but nevertheless a valuable saying, that what will persist is what we essentially *are,* not what we *have,*— not our casual trappings and belongings. A shroud, as the proverb says, has no pockets. Our possessions are accidental and temporary, we leave them behind, they are comparatively trivial:

> 'I am not what I have, nor what I do;
> But what I was I am, I am even I.'

Ourselves — our own characters — we take with us. It is all we do take with us. Character and Experience are our sole permanent acquisitions here: these contribute to our permanent identity. Our identity lasts — lasts, for better for worse, through all our adventures, and is by them enlarged and enriched. With it — illustrated and informed by them — we

journey on into the unknown, whose boundary ever recedes as we advance — as each to-morrow becomes to-day:

> 'I am a part of all that I have met;
> Yet all experience is an arch wherethro'
> Gleams that untravell'd world, whose margin fades
> For ever and for ever when I move.'

Existence itself is a great adventure,— a series of them. Some live placid lives and think to escape adventures,— at any rate will not go to seek them — will try to avoid them. But none can altogether escape. None can escape the adventure of death. Unmistakably a great adventure that! — the entering another world, encountering another condition of being, facing the utterly unknown; only shielded by faith in beneficence from dismay.

There are three main adventures in human life — birth, death, and marriage. Comparatively few escape all three. Marriage surely is an adventure: it may turn out surprisingly well, it may turn out disastrously ill. Death every one admits to be an adventure. But birth,— few think of birth in that way; and yet I think it is one — an adventure as

great as any perhaps,— the coming to the planet, the becoming an individual, attaining a personality which, whether it begins then or not, at any rate is to continue. At birth we began a separate individual existence, but not from nothing.

Children often appear to retain for a time some intuition, some ' shadowy recollection ' as it were, of a former state of being. And even adults, in certain moods, have ' gleams of more than mortal things,' and are perplexed at times with a dim reminiscence as of previous experiences: —

> ' Is it that in some brighter sphere
> We part from friends we meet with here?
> Or do we see the Future pass
> Over the Present's dusky glass?
> Or what is that that makes us seem
> To patch up fragments of a dream,
> Part of which comes true, and part
> Beats and trembles round the heart? '

But children in especial are liable to brood over the mystery of existence, in a way which is little understood and which they outgrow, though meanwhile their speculations lead them to confuse themselves and others with

'Obstinate questionings
Of sense and outward things,
Blank misgivings of a Creature
Moving about in worlds not realised.'

On the full meaning of this we need not now insist, but the fact is testified to by many writers. Tennyson, for instance, bears witness —

'For oft
On me, when boy, there came what then I call'd,
Who knew no books and no philosophies,
In my boy-phrase "The Passion of the Past."
The first grey streak of earliest summer-dawn,
The last long stripe of waning crimson gloom,
As if the late and early were but one —
A height, a broken grange, a grove, a flower
Had murmurs "Lost and gone and lost and gone!"
What had he loved, what had he lost, the boy?'

And to the same general purport an earlier poet — Henry Vaughan, in the middle of the seventeenth century — bears independent testimony thus:

'Happy those early days, when I
Shin'd in my angel-infancy!
Before I understood this place
Appointed for my second race.

. . . . . .

When on some gilded cloud or flower
My gazing soul would dwell an hour,
And in those weaker glories spy
Some shadows of eternity.

. . . . . .

[And] felt through all this fleshly dress
Bright shoots of everlastingness.'

There is a deep meaning in that phrase of Plotinus

'Descent into generation,'

and the passage in which it occurs is thus translated by Myers: —

'Surely before this descent into generation we existed in the intelligible world . . . as clear souls and minds immixed with all existence; parts of the Intelligible, nor severed thence; nor are we severed even now.'

And Myers himself begins a poem 'To Tennyson' with the same idea: —

'When from that world ere death and birth
He sought the stern descending way,
Perfecting on our darkened earth
His spirit, citizen of day,' . . .

These things are not said lightly, but embody a lifetime of thought and inquiry.

My message is that there is some great truth in the idea of pre-existence; — not an obvious truth, nor one easy to formulate,— a truth difficult to express,— not to be identified with the guesses of re-incarnation and transmigration, which may be fanciful. We may not have been individuals before, but we are chips or fragments of a great mass of mind, of spirit, and of life,— drops, as it were, taken out of a germinal reservoir of life, and incubated until incarnate in a material body.

This view is illustrated by Tennyson's

> 'Out of the deep, my child, out of the deep,
> From that true world within the world we see,
> Whereof our world is but the bounding shore.'

Or again by his famous simile of a tide pouring in from the ocean, filling the harbour with a copious flood, and then ebbing whence it came.

And the teaching of 'In Memoriam' is clearly that individuality begins with the construction of the body. It is surely true that Spirit unites, while Body separates. And so

each fragment of spirit is supposed to become a separate individual through incarnation: —

> 'So rounds he to a separate mind
> From whence clear memory may begin,
> As thro' the frame that binds him in
> His isolation grows defined.'
>
> 'This use may lie in blood and breath.'

Incarnation is the right word for conception and birth; it is an entering into flesh, a gradual incarnation, gradual accretion of terrestrial matter, gradual entering into relation with it. The soul may be said slowly to construct the body, and continuously to leak in and take possession of the gradually improving conditions. Constructing the body, I say, out of earthly particles,— particles picked up in the first instance by plants and animals, then utilised by us, guided and arranged and compacted into a body, so as to represent our practical and terrestrial aspect,— that is, such part of us as can be represented by what Tennyson calls ' the house of a brute let to the soul of a man.'

For we are clearly taught by Science that

man on his bodily side must trace his ancestry through the animals; which are thus in a sense his remote kindred. There was evidently a long series of stages through which the physical mechanism of man must pass, before human faculties could efficiently utilise and manipulate terrestrial matter:

> 'Hints and previsions of which faculties,
> Are strewn confusedly everywhere about
> The inferior natures, and all lead up higher,
> All shape out dimly the superior race,
> The heir of hopes too fair to turn out false,
> And man appears at last.'

The long period of preparation necessary, before the gradually improving body became tenantable by anything that could be called a human soul, is most impressive. Not suddenly, but through cosmic processes of evolution, was this brought about; and there must have come a time when a definite stage in the long history could in imagination be acclaimed with delight in a triumphant hymn:—'It is finished, man is made!'

'Of the earth, earthy,' the primeval man was, truly, but he stood erect, he felt himself to be risen above the beasts; and a splendid promise

must have shone in the eyes of that nascent intelligence who in some epoch of trouble and distress first on the earth uplifted hands of prayer.

'Through such fierce hours thy brute forefather won
Thy mounting hope, the adventure of the son;
Such pains astir his glooming heart within
That nameless Creature wandered from his kin;
. . . . . .
With hopes half-born, with burning tears unshed,
Bowed low his terrible and lonely head;
With arms uncouth, with knees that scarce could kneel
Upraised his speechless ultimate appeal; —
Ay, and Heaven heard, and was with him, and gave
The gift that made him master and not slave . . .
And some strange light, past knowing, past control,
Rose in his eyes, and shone, and was a soul.

Finished indeed? — no, far from finished, never finished. Anticipation lies ahead, to all infinity: but the evolution of the human body was a momentous achievement; for thereby a terrestrial existence was rendered possible for beings at a comparatively advanced stage of spiritual evolution. Plato and Shakespeare and Newton lay then in the womb of the future.

And anticipation still forges ahead.

CHAPTER III

THE PERMANENCE OF PERSONALITY

THE beautiful animal body, thus slowly fitted for our reception, we utilise; and with it we are associated, being able by its aid to manifest ourselves to others, and to operate and do work on the planet, for a short period of some seventy years. It is our machine, our instrument for manifestation, for living a practical and useful life, for coming into relation with other people, who are likewise temporarily associated with matter, and by it partly displayed and partly disguised. An infant is thus apostrophised by Tennyson: —

> . . . 'Oh dear Spirit half lost
> In thine own shadow and this fleshly sign.'

The body is our only means of effecting physical movements in the realm of matter — the only means we have for dealing with and altering the planet which is our temporary home. The body is by no means a perfect engine, al-

though so admirably contrived; it requires much training and many repairs — though some of the repairs are necessitated by our own injudicious treatment of it. But anyhow, when it has done its work, served its purpose, and is getting worn out, the body is sloughed off and left behind, and we go on without it,— no longer perceptible to friends still in the body, — lost to them till they rejoin us; and rising still, beyond reach of everything but love and service: —

'Souls shall climb fast their age-long way,
With all to conquer, all to know:
But thou, true Heart! for aye shalt keep
Thy loyal faith, thine ancient flame; —
Be stilled an hour, and stir from sleep
Reborn, re-risen, and yet the same.'

So sang F. W. H. Myers; and, to another note, and probably in another sense, Meredith thus expressed the eternity of ideal existence: —

'Full lasting is the song, though he,
The singer, passes: lasting too,
For souls not lent in usury,
The rapture of the forward view.

'With that I bear my senses fraught
Till what I am fast shoreward drives.
They are the vessel of the Thought,
The vessel splits, the Thought survives.'

Yes, the Thought, the human logos, survives: having undergone this curious experience — having passed through the interlude or episode of incarnation in matter, having lived a material life on this planet.

'Wherefore,' as St. Paul says, 'we faint not; for though our outward man is decaying yet our inward man is renewed day by day.' Nor will the loss of our material body deprive us of all means of manifestation in the wider sense: 'For we know that if the earthly house of our bodily frame be dissolved,' we have a spiritual or resurrection body not made of earthly matter — a 'habitation which is from heaven.' Yea, and even the discarded body itself will remain of service to living organisms — its particles can contribute to the incarnation of new creatures 'that what is mortal may be swallowed up of life.'

What happened before earth-life, we have forgotten; — if we ever knew, we have forgotten. Our individual memory begins soon after

birth. Before that we cannot trace identity. Perhaps we had none. Either we had none or we have forgotten. The latter is the more poetic mode of expression. It is not new. I am well aware that I am saying nothing new. The doctrine is old; Plato taught it before the time of Christ, Wordsworth taught it early in last century,— the doctrine that when we enter into flesh we leave behind all memory of previous existence;— all, except for occasional dim and shadowy recollections which, though they may be stronger in infancy, occasionally surprise the grown man also, from whose mind they usually appear to have faded. Dimly he may remember the days of his infancy.

'But he forgets the days before
God shut the doorways of his head.

The days have vanish'd, tone and tint,
And yet perhaps the hoarding sense
Gives out at times (he knows not whence)
A little flash, a mystic hint.'

The idea of some such *amnesia*, as it may be called, a supposed dislocation or disruption of memory, is suggested by the analogy of hyp-

notic trance, and by cases of multiple personality; where in each of the lower states, or strata of personality, all memory of what happened in the higher has completely lapsed, until the appropriate state is again entered. It is true, and rather specially instructive, that in one of the highest states thus accessible it sometimes happens that the gaps of memory are filled up, and all events are more or less recollected — even those of lower states also; though as a rule the memory is discontinuous, and the appropriate thread is taken up again on re-entering any given state. Tennyson indicates that such a notion may apply to the future condition of surviving personality: —

> 'As old mythologies relate,
> Some draught of Lethe may await
> The slipping thro' from state to state.
>
> As here we find in trances, men
> Forget the dream that happens then,
> Until they fall in trance again.
> So might we, if our state were such
> As one before, remember much.'

And again in ' In Memoriam ' he expresses the same idea; for, after emphasizing our pres-

ent forgetfulness of the long past, and acquiescing in it as conducive to practical life here and now, he contrasts it with what we may anticipate in the long future, when we have passed beyond the shadow-throwing 'growing hour' of the present, and have begun to rise into the broader vista of a more luminous region.

'So be it: there no shade can last
In that deep dawn behind the tomb,
But clear from marge to marge shall bloom
The eternal landscape of the past.'

We are said to be now, comparatively speaking, asleep,— entranced, as it were, by association with matter,— an association which is both an assistance and a disability;— an assistance, indeed an essential, to our life here; a temporary disability, though a needful experience, as seen from the life beyond.

'We are such stuff
As dreams are made of, and our little life
Is rounded with a sleep.'

So we are led to apprehend Wordsworth's immortal poem in a livelier way, as not only poetically true, but as an inspired expression of actual fact: —

'Our birth is but a sleep and a forgetting:
The Soul that rises with us, our life's Star,
Hath had elsewhere its setting,
And cometh from afar:
Not in entire forgetfulness,
And not in utter nakedness,
But trailing clouds of glory do we come
From God, who is our home.'

Yes, fragments of the great Spirit which is God. This has gradually dawned upon us. We were at first children and took things as they came; though even then questions of great magnitude and difficulty used to loom before us — questions we could in no wise answer. Now that we are grown up, some of us are still in the dark; but those who devote their lives to study think that they are coming slowly and partially to understand the Universe, and our place in it, and what is expected of us.

These are the questions which all thoughtful people are asking; these are the questions whose interest brings together many an assemblage of serious and working men; these are the questions which are being asked throughout Britain, and in many of the countries of Europe, at the present time: — Why do we exist? What are we here for? What does existence mean?

CHAPTER IV

CHARACTER AND FREEDOM

WE are here to become worthy of our origin, to develop a character and a will, to become ripe for freedom. Freedom, power of choice,— that is the dangerous gift that has been bestowed upon us as man.

> 'The man who man would be must rule
> The empire of himself.'

There came a time, in the long course of evolution, when man realised that he was free — free to determine his own actions,— when he realised that he knew good and evil, could discriminate between them, could choose the one and eschew the other, could feel instinctively the difference between right and wrong, and could exercise the power which was his. With that power, he rose to perceive the greatness — the greatness as well as the danger — of this gift of freedom, and realised for the first

time his kinship, biologically with the animals, but psychologically with the gods.

Perception of this sublime power of conscious choice — a distinctive mark of humanity — must have first dawned upon some early genius of the race, some incipient poet or seer, into whom the vivifying Spirit was strongly breathed. Well may such a seer be called *the First Man*, for with that divine inbreathing man became a living soul.

The period which succeeded this great inspiration is called ' the Fall,' for man naturally proved as yet unworthy of the insight which had been vouchsafed to him; but it was the result of a Rise. It was the natural consequence of a rise in the scale of existence — a step upward in the path of development. But it is also called a Fall, because man tripped over the upward step. Having the power of doing wrong, he utilised that power, and fell. Thus entered Sin,— the conscious doing of what we know to be wrong. Before that, men and women had been in a state of innocency, like the animals,— a state of irresponsible, unknowing innocence,— out of which they must emerge into light and knowledge and sorrow,

if a divine spirit were to be engrafted on the animal stock, if they were to become conscious of a responsible personal identity.

'And first a glimmering ease they had,
And creatures bound in dream benign,
Obscurely sentient, blindly glad,
Felt the dim lust of shower and shine;

Then works the unresting Power, and lo!
In subtler chain those germs combine,
Thro' age-long struggle shaping slow
This trembling Self, this Soul of thine.'

As man thus rose to the higher level of conscious freedom, that original condition of pristine innocency fell from him; he could plead it no longer. Henceforth he had full human responsibility, and his destiny rested largely with himself.

The severe discipline through storm and temptation, thus initiated, has been felt by many a saint to have been of highest value; and those who wonder at the fact that sin and evil have been allowed to exist are not deep thinkers. Milton complains of their shallowness thus: —

'Many there be that complain of divine Providence for suffering Adam to transgress. Foolish tongues! When God gave him reason, he gave him freedom to choose, for reason is but choosing; he had been else a mere artificial Adam, such an Adam as he is in the motions [puppet shows]. We ourselves esteem not of that obedience, or love, or gift, which is of force; God therefore left him free, set before him a provoking object ever almost in his eyes; herein consisted his merit, herein the right of his reward, the praise of his abstinence. Wherefore did he create passions within us, pleasures round about us; but that these rightly tempered are the very ingredients of virtue? They are not skilful considerers of human things, who imagine to remove sin, by removing the matter of sin.'

Few, very few, are the favoured individuals who can receive this gift of freedom without ever abusing it. To most the attainment of a condition of joyful and heart-whole obedience to what they see to be best comes through years of struggle and effort. Yet there is no redemption, no real regeneration, till this condition is attained,— till the whole being responds enthusiastically to the demands of the highest which it is able to perceive. The conflict, the warring in the members, is then over, and the reign of peace and undisturbed progress has begun. We shall attain it in time,

— some sooner, some later; the conflict cannot be permanent, or it would ultimately destroy us. The only service that can last through infinity is the Service that is perfect freedom.

> 'Oh! who is he that hath his whole life long
> Preserved, enlarged, this freedom in himself?
> For this alone is genuine liberty:
> Where is the favoured being who hath held
> That course unchecked, unerring, and untired,
> In one perpetual progress smooth and bright?'

This is the ideal. This is what we on the up track see before us as the destined goal. Towards that we are intermittently, and with many falls, striving.

Assisted? Yes, truly assisted,— led but not forced, guided but not compelled. If we ask to be helped we are helped — helped in ways we can as yet hardly imagine or believe in — helped by other human beings sometimes, but helped also by other beings and in other ways — ways which we hardly yet suspect. I believe this to be literally true.

CHAPTER V

THE ADVENT OF CHRIST

THE revelation of the Universe is always before us, but we do not see. When one after another of the race catches a glimpse of something beyond previous experience, it is not anything really new that he perceives. It is only new to us, because human senses are darkened or because we are too busy to attend. The stars were worlds and solar systems all the time, though to antiquity they seemed only insignificant appendages to earth. The microbes of pestilence were active in the ancient days, and their opponents in the blood attacked them,— though the conflict was all unknown to man. Radio-activity, distintegrating atoms, and all the other discoveries of physics, are only a recent detection of what always existed. Crowds of unsuspected things are awaiting our discovery — new facts in Nature, ay, and

in human nature;— may we not say still more in the Divine nature.

Progressive revelation is the subjective aspect of human progress. The doctrine of evolution — evolution of capacity for knowledge — is profoundly true with respect to the spirit of man; there is nothing artificial about our ignorance; facts are not withheld from us, any more than a picture, a statue, or an oratorio is kept from the cognizance of an animal,— everything lies before it, ready to be seen or heard, — only the perception is lacking. In the divinest creation of man such creatures see absolutely nothing; nothing can they appreciate of the spirit, the idea, the inspiration, incarnate in a work of genius.

And even so it must be with the most enlightened man, confronted with the creations of God.

The idea of ' angels ' is usually treated as fanciful. Imaginative it is, but not altogether fanciful; and though the physical appearance and attributes of such imaginary beings may have been over-emphasized or misconceived, yet facts known to me indicate that we are not

really lonely in our struggle, that our destiny is not left to haphazard, that there is no such thing as *laissez faire* in a highly organised universe. Help may be rejected, but help is available; a ministry of benevolences surrounds us — a cloud of witnesses — not witnesses only but helpers, agents like ourselves of the immanent God.

Hidden as they are to our present senses, poets can realise their presence in moments of insight, can become aware of their assistance in periods of dejection — dejection which else would be despair. So it has been with one and another of the band of poets who, stranded and unknown in a great city, have felt the sting of poverty; to them at times have the heavens opened, the every-day surroundings have become transfigured,— as Cheapside was, in Wordsworth's poem, at the song of the thrush, — and, to the vision of Francis Thompson, angels have ascended and descended in the very streets of London: —

> 'But (when so sad thou canst not sadder)
> Cry; — and upon thy sore loss
> Shall shine the traffic of Jacob's ladder
> Pitched between Heaven and Charing Cross.'

And the race also has been helped. A Divine Helper has actually taken flesh and dwelt among us,— full of grace and truth. 'The second man is the Lord from heaven.' And at this Advent season and Christmas time we commemorate that event. We commemorate it every time we date a letter; for what does 1910 mean except that we are counting the years since that event? The whole Christian world dates its history from that momentous epoch, *the* Incarnation.

We are all incarnations, all sons of God in a sense, but at that epoch a Son of God in the supremest sense took pity on the race, laid aside his majesty, made himself of no reputation, took upon him the form of a servant, a minister, entered into our flesh and lived on the planet as a peasant, a teacher, a reformer, a martyr. This is said to have literally happened; and as a student of science I am bound to say that, so far as we can understand such an assertion, there is nothing in it contrary to accepted knowledge. I am not testifying to it because it is a conventional belief, I am testifying because I have gradually found that it may be true — because I have

gradually become assured of the possibility of such an incarnation. The historical testimony in its favour is entirely credible. The Christian Churches have hold of a great truth. That is what I want people to realize distinctly and forcibly and without any convention. Freed if possible from the blinkers of custom, it can be recognized as a reality. All that the churches say about it need not be true — is not all likely to be true; but something is true much better than they say — something which they and we together are gradually rising to understand. It is a great subject, on which many scholars have written; and what they have said is well deserving of study. We should take their writings seriously, but first we should be assured of the possibility of the solid fact with which they are dealing,— assured that there is a fundamental truth underlying the tentative conclusions of reverent and studious men.

Christ did not spring into existence as the man Jesus of Nazareth. The Christ spirit existed through all eternity. At birth he became incarnate. Then it was that he assumed his chosen title ' Son of Man.' Before that he is

called the Companion, the Counsellor, the Word of God.

The Word, or the Thought, or the Logos, the Idea, the Design, the Conception,— these words all help to convey some notion of what is intended.

Everything created, even by man, is preceded by conception, by thought, by design; and then the thought is embodied and made a physical reality.

A cathedral or any other work of art exists first in the mind, and is then uttered in incarnate form.

So is it with every great work, it originates as a conception — conceived as we may say — so it be magnificent enough — conceived by the Holy Ghost.

> 'And so the Word had breath, and wrought
> With human hands the creed of creeds
> In loveliness of perfect deeds
> More strong than all poetic thought.'

On the mystery of the Incarnation we need not speculate, and what he was before the Incarnation we can hardly express. The best attempt that has been made to express it conveys

the idea in mystical and very beautiful language with which we are all familiar: modulating the great creation theme —' In the beginning God created the heaven and the earth. And the Spirit of God moved upon the face of the waters '— into poetic utterance still more magnificent: —

'In the beginning was the Word, and the Word was with God, and the Word was God. All things were made by him; and without him was not anything made that was made. . . .

'And the Word was made flesh, and dwelt among us, and we beheld his glory, the glory as of the only begotten of the Father, full of grace and truth.'

Yes, that is as near as we can get to the extraordinary truth! The Great Spirit took pity on the human race, which was blundering along, afflicted with a terrible burden of sins, with mistaken notions of worship,— bloody sacrifices, burnt offerings, and all the machinery of priestcraft, even when it did not fall into idolatry. Called as it was to something better and higher and purer from time to time by the great prophets which arose, it was still terribly mistaken, still confused by hopelessly wrong ideas of the nature of God, and liable to

attribute to the Deity all manner of human weaknesses and imperfections. That was the condition of unregenerate man. So a Divine Spirit — ' the Lord from heaven ' — became incarnate, in order to reveal to us the hidden nature of God, — the love, the pity, the long-suffering, the kindness — all that we had missed or misconceived or that priests had defaced. He came to tell us what the Kingdom of Heaven was really like. In many parables he tried to make it clear to us. He found it no easy task, but it was his central message, his constant endeavour, to convey some sense of the reality and meaning of the Kingdom of Heaven, and how it might be actually realized on earth. We see now that if the human will could only get into harmony with the Divine will, if the will of God could be done on earth as it is done in heaven, the Kingdom would have come; earth and heaven would have become one, and the joy of existence would be supreme.

This vision — the hope of this millennium — has been the inspiration ever since of saints and apostles; who with good cause have lamented the pathetic blindness of previous

generations, the determined blindness of their own: —

'Lo for the dawn, (and wherefore wouldst thou screen it?)
Lo with what eyes, how eager and alone,
Seers for the sight have spent themselves, nor seen it,
Kings for the knowledge, and they have not known.'

Our spiritual eyes are still closed, even now. Life on this planet is as yet far from the realization of the Kingdom of Heaven; the misery and the inequalities of opportunity are too prevailing, the man-made degradations too severe. We are still barely emerged from the savagery of ruthless competition; the condition of the stricken poor is too appalling. 'The earth is full of darkness and cruel habitations.'

But it is our own fault, it is not the fault of nature, there is room and plenty for all, under proper organisation; and the earth is bright — as bright as any other of the heavenly bodies. If it seems dark it is our own fault. 'Dark is the world to thee, thyself art the reason why!' But hope is in the air. In spite of prevalent greed and selfishness — greed and selfishness so stupid that they defeat their own ends, and spoil life for all but the absolutely

inhuman,— thoughtful people are beginning to perceive how deep has been this corporate folly; more and more are they longing for a brighter day.

Civilized humanity should be raised above mere material animal distress; — little more is needed for its reformation; there are plenty of social forces which make for good, if they had a chance of acting, if they were not too heavily handicapped,— humanity itself is good enough, if given a chance. Real badness is exceptional; weakness, increased by hopelessness, is the besetting sin. But reformers and dramatists are busy, people are waking up, there is hope in the air. Even now the seers and poets are preparing their songs to welcome a second Advent of the Divine Spirit in the hearts of men,— not in Palestine or Asia Minor, but here in Europe, in Britain, in London: the time will surely come when we can feel that the further dream of the poet has been realised,—

> 'And lo, Christ walking on the water
> Not of Gennesareth, but Thames!'

CHAPTER VI

PROGRESS AND SUFFERING AND FUTURE SERVICE

MUCH have we to go through before that consummation,— much pain and sorrow and trouble, as well as happiness and joy:

'No sudden heaven, nor sudden hell, for man.'

Nor will it greatly matter that we ourselves shall have passed on into another condition of existence. However we may progress, we shall not be immune from the sufferings of earth. Now that we have become part of humanity, we shall not be able — we shall not wish — to leave it untended, or to ignore its tears and entreaties. We shall either continue part of the redeeming agency, or we shall still need redemption ourselves. Then, as now, it will be true that

'The Voices of the day
Are heard across the Voices of the dark';

then, as now, it will be true that willingness to

help distress is a mark, not of 'humanity' only, but of our highest conception of Divinity also.

It was the inspiration of this idea that thrilled through the youthful David in Browning's poem 'Saul,' when in a burst of affection for his afflicted master he caught a glimpse of the Divine scheme of salvation — realizing that his own willingness to share the pain of another was a feeble echo of the love of God — and in the enthusiasm of that discovery gave utterance to that rapturous exclamation, the climax of the poem: —

'Would I suffer for him that I love? So wouldst thou—
so wilt thou!
So shall crown thee the topmost, ineffablest, uttermost
crown —
And thy love fill infinitude wholly, nor leave up nor down
One spot for the creature to stand in! It is by no breath,
Turn of eye, wave of hand, that salvation joins issue with
death!
As thy Love is discovered almighty, almighty be proved
Thy power, that exists with and for it, of being Beloved!
He who did most, shall bear most; the strongest shall stand
the most weak.
'Tis the weakness in strength, that I cry for! my flesh,
that I seek

In the Godhead! I seek and I find it. O Saul, it shall
be
A Face like my face that receives thee; a Man like to me,
Thou shalt love and be loved by, for ever: a Hand like
this hand
Shall throw open the gates of new life to thee! See the
Christ stand!'

This mighty idea of suffering borne by the Divine Being for the sake and the help of humanity thrilled through Browning himself, as he thus gave dramatic expression to it; for in the immediately following stanzas he describes the drop back into ordinary life, as of one who has wakened from an unearthly vision;—a feeling well known to all who have ever been on the heights of thought.

People often appear to think, or at any rate to sing, that they will get through all their pain and exertion here, and hereafter will be surfeited with idleness and enjoyment. True it is that for the over-worked and harassed multitudes some rest is profoundly needful. Reasonable rest and peace and leisure are essential to the fair development of the soul; they are necessary conditions for thought, for discovery, for meditation, for the fruits of genius, for

many of the higher attributes of man. Too little of these good things are enjoyed here; even holidays, for the multitude, are a crowded and good-natured effort at wearisome festivity. But rest and peace and leisure are very different from idleness.

And hereafter, idleness would be absurd. After a few thousand years the monotony would be unendurable; in any condition of being, stagnation must be deadly, the soul must continue to rise, to advance, to exert herself. For instance, we may have noticed how the instinct for study and enlightenment continues into old age, in the assurance, apparently, that work so expended involves no waste of time. 'Every hour is saved . . . a bringer of new things';

> 'And this gray spirit yearning in desire
> To follow knowledge like a sinking star,
> Beyond the utmost bound of human thought.'

Let no complaint be made that anticipation of future exertion is painful. Work done against the grain, or under compulsion, is dreary; but work undertaken with enthusiasm is a delight. Everything depends on the conditions and the

motive. The work of a galley-slave at the oar must have been intolerable; but that of an athlete in a boat-race is voluntarily undertaken. Twenty minutes on the treadmill, I have been told, is a sort of torture; but to a youth on a bicycle the labour becomes enjoyment. Nor is there any permanent happiness to be obtained without work and service of some kind. The noble and passionate soul can be no more satisfied with luxury than with sloth —

'Nay, but she aims not at glory, no lover of glory she:
Give her the glory of going on, and still to be.'

'She desires no isles of the blest, no quiet seats of the just,
To rest in a golden grove, or to bask in a summer sky:
Give her the wages of going on, and not to die.'

Such is the demand of every vigorous nature; its own force urges it on

'To strive, to seek, to find, and not to yield.'

Under the figure of a weapon, Ulysses is pictured by Tennyson as lamenting the inactivity of old age —

'How dull it is to pause, to make an end,
To rust unburnish'd, not to shine in use!'

And just as the strenuous healthy man, here and now, asks for danger and privation — is ready to face severe privation, as in Antarctic exploration, rather than inertia,— so is it with the ambition and petition of the soul: —

> 'Oh roughly, strongly, work her bold increase!
> Leave her not stagnant in a painless peace!
> Nor let her, lulled in howso heavenly air,
> Fold her brave pinions and forget to dare!'

So it has always been; — grief and pain have been essential ingredients in the constitution of humanity, from the earliest dawn of sentient things: —

> 'Before the beginning of years
> There came to the making of man,
> Time with a gift of tears,
> Grief with a glass that ran,
> Pleasure with pain for leaven,
> Summer with flowers that fell,
> Remembrance fallen from heaven,
> And madness risen from hell.'

Ay, human nature is a full and complex thing, of a vast potentiality,— seamed and furrowed from the past, but with sensibilities indicative of a mighty future.

Already the Artist, the Poet, and the Thinker,

devoting themselves whole-heartedly to work, and embodying such beatific glimpses as they catch in moments of inspiration, are able to produce works which are veritable creations: being rightly so called, inasmuch as structure and order and beauty are made to arise out of a material chaos. Their spirits do in truth brood over matter without form and void, till they coerce it to their design and incarnate in it their thought. Such work, at the highest level, contains in itself an exceeding great reward; even though it may involve the creator in trouble and conflict with the obstruction and ugliness around.

Thus we are justified in speculating beyond actual experience, and in assuming, with good reason, that creative work — with all that it may entail — will ultimately form part of the highest joy; and that lofty spirits, inspired by a supernal Vision, and refreshed by periods of sabbatical calm, will enter upon their task with sublime devotion.

'Such devotion,' says Myers, 'may find its flower in no vain self-martyrdom, no cloistered resignation, but rather in such pervading ecstasy as already the elect have known; the

Vision which dissolves for a moment the corporeal prison-house; "the flight of the One to the One."'

And, with this phrase of the inspired Plotinus, he goes on to quote the eloquent and memorable passage which I venture here also to transcribe for its own sake:—

'So let the soul that is not unworthy of that Vision contemplate the Great Soul; freed from deceit and every witchery, and collected into calm. Calmed be the body for her in that hour, and the tumult of the flesh; ay, all that is about her, calm; calm be the earth, the sea, the air, and let Heaven itself be still. Then let her feel how into that silent heaven the Great Soul floweth in . . . And so may man's soul be sure of Vision, when suddenly she is filled with light. . . . And how may this thing be for us? Let all else go.'

The atmosphere of calm and peace, both mental and physical, thus beautifully described, furnishes by universal consent the opportunity or condition for the highest vision, this is the condition to which we hurried and time-driven mortals so seldom attain — this the state in which inspirations come.

'They haunt the silence of the breast,
'Imaginations calm and fair,

The memory like a cloudless air,
The conscience as a sea at rest.'

The uproar of physical life is upon us and deafens us; calm is necessary for revelation; — not till the earthquake and the fire have subsided can we hear the still small voice.

Nor perhaps would it be good for us too frequently to indulge in retrospect, nor too constantly to dwell in anticipation of the future; we have duties to perform, we must learn to overcome anxiety, but to overcome obstacles also, and to do each his heaven-sent work.

'The path we came by, thorn and flower,
Is shadowed by the growing hour,
Lest life should fail in looking back.'

So both past and future are dimly known, and our lives are not suffused with peace. In times of refreshment some foretaste of the peace of God may envelop us for a moment, and with it may come inspiration, but only to arouse in us fresh energy, more devoted service. Truly the peace of God passes all understanding; it is not a thing easily attained, it is very different from mere rest; it is restfulness, but it is not rest. Nor can it ever be a folding of

the hands in satisfaction with what has been accomplished. Still may we be called upon ' to fill up what is behind ' ; always there will be something still to be done, and not solely to be enjoyed.

We shall find, then, as we rise in the scale of existence, that not only calm will come to us, but work too, and sometimes pain; we shall find ourselves — strange to say — sometimes actually choosing pain and trouble rather than comfort and ease. The highest kind of pain is voluntary — it is suffered for a ' cause,' or for the sake of others.

This condition, the possibility of this summons, will not cease; we shall always be liable, even at the highest, to choose vicarious suffering; we shall willingly sacrifice our pleasures for a good cause.

The most ideal joy is found in service. It is the keynote of existence,— service both now and hereafter, service in the highest,— this is what is meant by ' the Joy of the Lord.' The fact comes out clearly in the parable of the Talents. Those who had done well with what was entrusted to them, who had utilized their opportunities for useful service, were told,—

what? Not that they are to rest from their labours, not that 'now the labourer's task is o'er'; no, they were told that having been faithful in a few things they would be made rulers over many things — rulers, in one version 'over ten cities' (as an expansion from a trusteeship of 'ten pounds')— and so be permitted to enter into 'the joy of their lord.' This is the Kingdom prepared for them 'from the foundation of the world.' No mere peace for them in that, but strenuous exertion.

Something of the spirit of the worker must enter into and permeate the work, if it is to be noble and worthy. Nothing worth doing is accomplished without trouble and 'taking pains.' Up to the Highest this is so. How comes it that the Deity has made all these worlds, and filled some of them with self-willed people, if he only needs rest and peace? The complications of existence must surely entail trouble — trouble and actual sacrifice and real pain. All creation had surely been

> 'A beauty with defect — till that which knows,
> And is not known, but felt thro' what we feel
> Within ourselves is highest, shall descend

On this half-deed, and shape it at the last
According to the Highest in the Highest.'

Let us never think that existence is a placid stream down which we may glide without adventures. For a time we may, while character is maturing, while opportunity for thought and for development is needed; but there will come a time when sacrifice is demanded, when some urgent call is made upon our nature, and when a man feels that he has to respond. This is the case with all heroes,— witness the launching of a lifeboat in a storm, witness the rescue party in a colliery disaster, a fireman saving life at the expense of his own, physicians and nurses in times of plague or war. At all times of stress men and noble women respond to the call, or feel degraded. Danger has to be faced, and our manhood rises to it. And this liability may surely continue throughout eternity.

'Say, could aught else content thee? which were best,
After so brief a battle an endless rest,
Or the ancient conflict rather to renew,
By the old deeds strengthened mightier deeds to do,
Till all thou art, nay, all thou hast dreamed to be
Proves thy mere root or embryon germ of thee; —

Wherefrom thy great life passionately springs,
Rocked by strange blasts and stormy tempestings,
Yet still from shock and storm more steadfast grown,
More one with other souls, yet more thine own.
Nay, thro' those sufferings called and chosen then
A very Demiurge of unborn men,—
A very Saviour, bending half divine
To souls who feel such woes as once were thine; —
For these, perchance, some utmost fear to brave,
Teach with thy truth, and with thy sorrows save.'

CHAPTER VII

THE REVELATION OF CHRIST

THE possibility that an opportunity for painful service will be liable to test our allegiance and claim our voluntary submission hereafter, no matter how high we may rise in the scale of existence, is a solemnizing, may be an alarming thought, but it is proven by our highest example — it is the very spirit of Christ. He at his lofty altitude saw an opportunity for helping the human race. He doubtless foresaw the consequences, the rejection, the scorn, the suffering, yea, the scourging and the death; but he did not shrink. He too, if we may say so, rose to the occasion (yes, even to him it is an added glory), and he became incarnate. He lived the life of a peasant, with all the disabilities of a working man, and he suffered death by torture. The life was lived out fair to the bitter end,— to the appar-

ent defeat, down to the last despairing cry 'My God, why hast thou forsaken me!'

A quotation? Yes, but an adopted quotation, and in its new significance quite the most awful utterance of man.

'Nay but thou knewest us, Lord Christ thou knowest,
Well thou rememberest our feeble frame,
Thou canst conceive our highest and our lowest,
Pulses of nobleness and aches of shame.'

'This hath he done and shall we not adore him?
This shall he do and can we still despair?
Come let us quickly fling ourselves before him,
Cast at his feet the burthen of our care.'

While incarnate he too had in some real sense partially forgotten previous existence. Yet of him pre-eminently it may be said that not in entire forgetfulness, but trailing clouds of glory did he come, from God who was his home.

We can see that his divine ancestry must have become intermittently plain, to one after another of those with whom he came into contact as he walked the earth in Syria. An extraordinary influence, an effulgence of the spirit, shone through the earthly covering and inspired profound wonder, enthusiasm, and de-

votion. The healing influence of the hem of his garment is not beyond what we know may occur. And the Transfiguration itself, when even his peasant garments shared for a moment in the blaze of glory, was but a special manifestation, to the few who were susceptible, of what was more obscurely there all the time.

Such luminosity as we possess is effectually hidden in ' earthen vessels,' but the light that then shone out of darkness gave what St. Paul calls ' the illumination of the knowledge of the glory of God in the face of Jesus Christ.'

' Oh to have watched thee thro' the vineyards wander,
Pluck the ripe ears, and into evening roam! —
Followed, and known that in the twilight yonder
Legions of angels shone about thy home! '

He remembered more than we do, and he told us. Reminiscences must have come over him from time to time,— must have flooded his spirit,— as in a minor degree is the experience of men of genius. Inspirations came to him from time to time throughout his ministry,— ' All things that I have heard of my Father I have made known unto you.' He told us more than we could then receive. He that had ears to hear had then a chance of hearing.

'God, who at sundry times and in divers manners spake in time past unto the fathers by the prophets, hath in these last days spoken unto us by his Son.'

So it is to-day. A record — short it is true, but a sufficient record — has been preserved, has been made available to us here in modern England through the loving labours of scholars; and it rests with us whether we can understand it.

From the record it appears that the memory, the consciousness, of what he was and why he had come, what was the meaning of his life and what was expected of him, or rather what he himself had determined to do, seemed gradually to dawn upon him.

His insight grew with maturity; he spent thirty years in quiet village existence; he went through much study, through long silent thought and periods of strange stress, before he fully realized his mission — the mission which in another state he had solemnly undertaken. And at the climax of this period, after his baptism by John, he spent forty days in the wilderness — a time of silent brooding. And here it was that he went through that mysterious experience which he called being tempted

of the devil — an experience of which he must have told something to some of his disciples, and which they doubtless only half, or less than half, understood. He studied the Scriptures also. He found many passages in the Hebrew Scriptures — notably in the great prophet Isaiah — which he adopted as applying to himself and his mission. And at last he emerged from obscurity, and in his own native place stood up in the church and announced that hereafter he was no longer the village carpenter, the mere son of Joseph, the man with whom they were familiar, but a Prophet, a Messiah, the visible incarnation of a Being of magnitude far higher than they had ever known: one who should succour humanity, should help those in distress, should show men how to succour each other,— a Being full of inspiration and insight, who should take of the things of God and reveal them unto man.

A dramatic episode this, when he read that verse from Isaiah in the church of his native village, stopping sort in the middle of a sentence,— not completing it, because he had not come to proclaim God's 'day of vengeance.' That might lie in the future. That, as it hung

over Jerusalem, he, later on, foresaw. But now his mission, his special God-anointed mission, was ' to heal the broken-hearted, to preach deliverance to the captives, and recovering of sight to the blind, to set at liberty them that are bruised, to proclaim the acceptable year of the Lord.' Now was the accepted time, now the day of salvation.

' And he closed the book, and gave it again to the minister, and sat down. And the eyes of all them that were in the synagogue were fastened upon him.' No wonder! They knew the Scriptures well enough. They were struck with the sudden cessation, the breaking off in the middle of a sentence — astonished at the inspired and authoritative manner of the young man,— still more when he spoke again, saying, ' This day is this Scripture fulfilled in your ears.'

They said one to another, ' Is not this Joseph's son? ' Is not this the neighbour we all know? How comes it then he has this wisdom?

The sermon as it went on not only surprised them, it ran counter to their prejudices, it offended their national pride and exasperated them. The Messiah he was expounding was

very different to their conception — was very far from a national deliverer; already the claim of all humanity was recognized, and not that of Israel alone.

So they were filled with wrath, and sought to hurl the young preacher over the nearest precipice. He escaped; but if he had had any illusion as to the speedy reception of his message, this incident must have promptly dissipated any such hope. Henceforth he was more reserved in his utterance.

That Jesus recognized himself as the Messiah, with his own interpretation as to the meaning of the phrase, is manifest from that unforgettable conversation which he held with the woman of Samaria; — testing as it were first his own power of clairvoyance, explaining to her more explicitly than usual what he had come to do, and at length openly declaring in plain words, ' I that speak unto thee am he.'

Later, while talking confidentially to his disciples, he gave them further indications of his thoughts concerning the prophecies of the Old Testament. In them, beside their plain and temporary significance, he discerned some forecast of the period in which they were living,

some anticiption of the exceptional nature which he felt to be his, some prognostication of his birth.

Do you think that such prophetic anticipation is impossible? Do you think it absurd to suppose that such an event as the Incarnation was foreseen and heralded, in some fashion more or less distinct? If you think so it is not to be wondered at, for the possibility of such foresight into futurity is a strange one. But I believe you are wrong if you think so, nevertheless. Facts are beginning to be known to me, still obscure and incomplete, which tend to show that even the birth of a human child, of ordinary parents, a child only remarkable for the fullness and richness of its nature and for the destiny soon to overtake it, was predicted, was shadowed forth in ways obscure but subsequently unmistakable, more than a year before birth. It is not a subject on which dogmatism is appropriate; but the conclusion at which I am gradually arriving is that future events are planned, and are not haphazard and unforeseen; that arrangement is possible in other spheres than ours, just as design and foresight are possible among human beings,—

anticipation and heraldings of a kind far above our present power, it is true, but of the same general character.

Nor is the idea of some kind of, perhaps automatic, perhaps semi-conscious, *choice,* concerning our earthly destiny, foreign to the conception of inspired and informed philosophers and poets; for the parable in the tenth book of Plato's ' Republic ' is well known, and perception of some real truth underlying it is the basis of the following apostrophe addressed to an ordinary human being: —

> ' Soul, that in some high world hast made
> Pre-natal unbewailing choice,
> Thro' earth's perplexities of shade
> Sternly to suffer and rejoice.'

But however it may be with the individual himself in ordinary cases, it is practically certain, in my mind, that anticipation in such matters is possible, and that inspired writers may express far more than they know.

So I have been led to perceive that the description given of those other utterances — Christ's posthumous utterances at the end of Luke's Gospel — may be essentially true, and that some of the prophecies are genuinely and

properly interpretable in ways of which the writers had barely a suspicion: —

'Behoved it not the Christ to suffer these things and to enter into his glory? And beginning at Moses and all the prophets, he expounded unto them in all the Scriptures the things concerning himself.'

And while still living, he was imbued with the same idea; for did he not say to a Jewish audience, at a moment of danger and inspiration,

'Your father Abraham rejoiced to see my day, and he saw it and was glad.'

Through the vista of a thousand years the coming of the Messiah had been dimly foreseen by the great patriarchs at inspired moments.

Then it was that in answer to their easy self-satisfied, sarcastic retort, 'Thou art not yet fifty years old, and hast thou seen Abraham?' he made that portentous utterance, announcing his pre-existence — his eternity; — then it was that he made the claim which they took for blasphemy — 'Verily, verily, I say unto you. Before Abraham was, I Am.' That statement is clear and unmistakable — it

was clear even to them — so clear that they could only reply with stones.

The present, the past, and the future, all in some strange sense indistinguishable.—Existence one continuous chain, manifested now, hidden then, but real always.— Before them in flesh stood the earthly representation or incarnation of a Being who henceforth would be acclaimed by all Christendom as Eternal, Omnipresent, Divine! 'In the beginning was the Word, and the Word was with God, and the Word was God.'

REASON AND BELIEF

PART II

THE OLD TESTAMENT IN EDUCATION

THE OLD TESTAMENT IN EDUCATION

CHAPTER I

HINTS ON TEACHING

THE proper utilization of the Old Testament in teaching is a problem of considerable difficulty, made none the easier by religious controversies and disputes; and I perceive that it is still partially overshrouded by a darkness due to superficial methods of interpretation — methods which are foreign to all canons of literary criticism — methods which, though they used to be called orthodox, are hopelessly unscientific and fundamentally mistaken.

Our whole outlook on the Universe has been so enlarged, and in some respects changed, during the recent century,— it is no wonder that many adults feel a difficulty in understanding ancient documents, written under very dif-

ferent conditions, and adapted to a much earlier period in the history of the human race.

The difficulty, from the controversial point of view, may be considerable, but I think it is quite possible to exaggerate the difficulty so far as the immediate dealing with children is concerned. I suggest that the early parts of the Bible are better adapted to children than to adults, and have a better chance of being effectively understood by children. For it is well known that in youth an organism passes in rapid and partial fashion through the stages of its ancestry — each individual rapidly retracing the history of its Race,— hence a child may be sympathetic and appreciative concerning the literature and history of early people, and whatever was suited to the childhood of the world may be appropriate to an individual child at a certain stage of development.

For instance, you have not to argue a child into a belief in God,— the belief is natural and is there. So likewise the Old Testament seems to consider it quite unnecessary to prove or argue that God exists: it feels on familiar terms with him, as a child does. And when we speak of childish views of the Deity, we need not be

understood as implying a term of reproach. None of our views, in such a matter, can be much better than childish; and we have reason for thinking that in some cases they may be worse. It is not unreasonable to hold that in some respects children may be nearer the Kingdom of Heaven than we are, and may feel a greater kinship of spirit with it than we do.

Hence I feel strongly that many of the difficulties which controversialists and Denominationalists make for themselves are unfelt when you come to deal with the children themselves.

I would not, however, pretend that the childish stage is higher than the adult stage, any more than the Old Testament is higher than the New. Adults who have really risen to the New Testament stage are above criticism, but I fear that the majority have not yet reached it. Nor can children be expected to have reached it, they may reasonably be regarded as more in the Old Testament stage — the stage at which the stories related, and the points of view there taken, seem natural and interesting.

For teaching purposes the Bible itself is better than Commentaries, Creeds, and Catechisms. These belong to a later date — a later

stage of evolution — not necessarily a higher one. Some of such statements are indeed definitely intended as controversial documents, to differentiate one sect from another. Few things are more unchildlike than that.

And in dealing with people at a lower grade of civilisation, I should assume that much of what is true for children applies to them also, and that a missionary who tries to train Church converts on the basis of Thirty-Nine Articles, or a Westminster Confession, or any such local and temporary document, must be but little qualified for his work.

As a rule, therefore, in teaching the Bible, we may teach it to children quite simply. Their questions will be interesting, but are hardly likely to be critical. Nor is it necessary to select only what commends itself to you, though certainly such parts may be emphasized. But the inferior and unessential stories are part of the documents too: they all belong to literature, and should be known by educated persons; otherwise, when reference is made to them in ordinary human intercourse, there is a blank.

Take such an entirely unimportant matter as the ages of the Patriarchs before the Deluge,

for instance; it is easy to criticize a teacher who asks a class about the traditional age of Methuselah. There is no sense in emphasizing it, but there is no reason why it should not be known. If children have been reading it, there appears to be no reason why they should not be asked about it; though whether the 969 represents years or months may be discussed among students of folk-lore. These legendary ages are part of early tradition, and are among the easy and interesting parts over which children feel no difficulty and some interest. They must be known, even if they are only to be explained away.

Similarly a book like Judges is interesting to children, but it is not a book to labour at or to emphasize unduly. The early treatment of these portions can be superficial and rapid: to treat them ethically demands an historic sense.

But the question will be raised as to how far they are ' true ' ; and this brings us to the first important consideration, as to the meaning and comprehensiveness of Truth.

CHAPTER II

ASPECTS OF TRUTH

ROBERT BROWNING, in *A Soul's Tragedy*, Act II., says that a philosopher discovers that of the half dozen truths known in childhood one is a lie as the world states it in set terms; and then after many years he perceives that it is a truth again, as he newly considers it and views it in relation with others.

That represents, in a sort of parable, the kind of experience of many thoughtful persons.

Truth has many aspects, and a statement which is objectively and literally false or meaningless may have a subjective truth of its own — a truth depending more on the percipient than on a form of words. Lest this last sentence be misunderstood and objected to as misleading, I must instance an example of a poetically beautiful expression of fact, which nevertheless is not, and never pretended to be, literally true. Shakespeare's description of

the dawn, which he puts into the mouth of Romeo, occurs to me: —

> 'Night's candles are burnt out, and jocund day
> Stands tiptoe on the misty mountain tops.'

Regarded as a scientific statement it is nonsense; and yet who can fail to recognize its subjective truth and splendid appropriateness.

In this age of Science, objective truth is our end and aim. But in order to achieve this end the aim has necessarily to be narrow. The human mind must take Truth by stages: it cannot grasp everything at once; nor can any formula cover the whole truth. There is a truth of Science and there is a truth of Literature. To a narrow view they appear to conflict, but they are all parts of a larger whole. And if there is anything to choose between them, from the point of view of perennial acceptance and understanding, the advantage lies with literature and poetry. True to human nature — that is what a work of Art or any great drama necessarily is; but what does it matter whether Hamlet, Othello, or Lear actually lived? Questions of this kind are not appropriate, and need not be asked concerning Art. Literature,

if true at all, is true for all time, and will appeal to all people who possess the faculties necessary for sympathetic comprehension.

The statement, sometimes made, that scientific textbooks must sooner or later pass out of date is by no means false, but it may easily be misunderstood. Most of the assertions in good text books are true enough, but they will be superseded by other and better modes of statement hereafter. The great landmarks stand, and the long established details remain true, but familiar and recognised forms of statement are likely to vary and improve as time goes on; hence old text books become antiquated and superseded. Whereas of poetry, at least of great poetry, we may say, what was somewhat paradoxically said by F. W. H. Myers in his *Classical Essays* (p. 21), 'Poetry is the only thing which every age is certain to recognise as truth.'

Contrast our own attitudes, to ancient science on the one hand, and to ancient art and poetry on the other. The science of the ancients is merely curious: their art and poetry and drama we cannot excel. These, in their unapproachable beauty, represent a kind of truth which

is eternal. In so far as a thing is perfectly beautiful, it represents an ideal in the mind of the Creator. Beauty is the apotheosis of Truth.

The truths of science are admirable and quite real, but there is nothing ultimate about them. They are stages on the road towards achievement — a difficult and infinite road. Science aims at Reality: it is an ambitious quest, for absolute Reality can hardly be knowable by us; but we aim at it and get towards it by steps. The intermediate steps, however, are likely to be imperfect, and at the best they are but steps. They may in themselves be less satisfactory than the stages or landings from which they lead up.

There is a superficial and materialistic criticism which lays undue stress upon these intermediate steps, urging them into the foreground and concentrating attention upon them as if they were the complete and absolute Truth; whereas the whole of truth is unattainable by us. People used to over-emphasize the subjective aspect, and neglect objective truth, but it is now becoming possible to do the converse; and the neglect or under-estimation of the hu-

man aspect is one of the dangers of this age. Materialistic sceptics are abroad who see and emphasize only one side of things, and deny other sides. Their assertions may be true; their denials are often absurd. There may be a world of emotion in what physically is very simple or insignificant. For, with Father Waggett, we may imagine this kind of materialistic critic saying to an audience at a concert,— 'What are you crying about, with your Wagner and your Brahms? It is only horsehair scraping on catgut.'

Yes, from a narrow physical point of view that is what it is. It can all be represented by vibrations in the air: all, that is, except the soul. The soul of the music is in humanity. It is an affair of perception, and without a percipient it is non-existent or meaningless. To some human beings, as to all animals, an oratorio or a painting is non-existent; it acts physically on their sense-organs, but it conveys no meaning whatever. And surely we are all blind and deaf to much that would appeal to higher beings. A dog in a picture gallery, interested in smells and corners, may repre-

sent, as in a parable, much of our own attitude to the Universe.

Then again, take such an object as the Moon. To ordinary popular science the Moon is a dead inert mass of volcanic rocks, without atmosphere, without life, without interest — a severe dead monotony. But what has the Moon not been to poets? And even the legendary 'man in the moon,' with his dog and his thornbush, has at least some humanity about him. Remember also Shelley's description —

> 'That orbèd maiden, with white fire laden,
> Whom mortals call the Moon.'—

Dead volcanic rocks are poor competitors with that.

Nevertheless it is true that there is a higher science of all these things,— a higher science of harmony which may explain the reason of the emotions felt in music, a higher science relating to the birth of the Moon, its past history as an offspring of the earth, its tidal influences, its future destiny — yea a higher science of matter itself, wherein deadness and inertness are preposterous notions; — all which, when

known and used by a poet, will eclipse in value the legends based on ignorance. For the fullness of fact must be full of human interest likewise.

Meanwhile this higher Science is not generally known, and therefore cannot at present be utilized for artistic purposes. Its use lies in the future. What we can be quite sure of is that human feelings are more ancient than any knowledge; and that the instinct for Worship is ancient and powerful too. Witness the feelings induced by some of the ordinary processes of nature,—a sunrise, for instance, as described by that mystical artist and poet William Blake,

'What when the sun rises do you see? A round disc of fire, something like a guinea?'

'Oh, no no, I see an innumerable company of the heavenly host crying Holy, Holy, Holy is the Lord God Almighty.'

In this spirit the Old Testament has to be interpreted and understood. This was the kind of mood in which much of it was written. The great parts of it are manifestly inspired. I tell you that Inspiration is a reality, though

its definition is at present vague. No authoritative definition has yet been given by any conclave or any Church; and it is fortunate that it is so, that our conception of Inspiration may enlarge and become more definite as our knowledge grows.

But I want to say that whatever Inspiration means, it does not mean infallibility. We have access to no infallible information concerning matter of fact. Our knowledge, as expressed by even the highest Science, is necessarily partial and incomplete; it only deals with aspects, else it could not deal with *things* at all. It is the outcome of our faculty of abstraction, our power of attending to one part at a time, our power of dividing and classifying and ignoring. Divisions and classifications are arbitrary,— they are human conveniences,— but Truth itself is continuous. There are no absolute boundaries in Nature, there is continuity. In complete knowledge things are unified — everything must be united with everything else. Not material things alone, but thought and feeling and emotion and substance and meaning and all manner of

attributes; and all related to the human and to the Divine. To inspired insight, from time to time, everything has been felt to be permeated through and through with Deity,—

πάντα πλήρη θεῶν

'and every common bush afire with God.'

Take that well-known stanza of Tennyson — so well known that I need hardly quote it: —

'Flower in the crannied wall,
I pluck you out of the crannies,
I hold you here, root and all, in my hand,
Little flower — but *if* I could understand
What you are, root and all, and all in all,
I should know what God and man is.'

But if that be so, how can we study Botany or any other science? We could not, if we had in every case to contemplate the whole Universe with which it is linked. We must make abstraction, we must attend to such aspects as strike us in our present condition, and deal with the cold facts accessible to our senses. For it is through our senses that we become aware of the Universe: it is those which give us information; but it is those also which limit and determine the kind of information that

we can receive. We do not always recognise this. If we had other senses the Universe would look quite different.

Our senses tell us about matter. We can imagine beings whose senses tell them about the Ether and ignore matter. Their point of view would be quite different to ours, their statements discordant and inconsistent with ours — apparently inconsistent, and yet both true — true each of them as far as they go. That is the essence of all human knowledge, that it shall be true as far as it goes. It never goes all the way; error creeps in when we think it does. Even in mathematics this is so; over-precise statements have frequently had to be generalised and supplemented. Mistakes arise chiefly, in ordinary theories of life, when the narrow limitations necessary for practical purposes are extended and supposed to represent the whole truth of things, when not only positive assertions are made, but negative ones too.

To deny is much more dangerous than to assert. In Goethe's drama the spirit that constantly denies, *wer stets verneint*, is Mephistopheles. An *assertion* may have some insight

underlying it; an enthusiastic assertion is nearly always the outcome of a mustard seed of truth, however overlaid with error it may be. But a *denial* may only signify a mental dislocation, a failure to understand, a lack of sympathy, a failure to appreciate a point of view, an absorption in some other mode of regarding truth. To deny rightly usually demands much completer knowledge than to assert. An assertion may be specific and minute — the result of a perception of a single instance. A denial, to be effective, may have to be large and comprehensive. And the larger its field, the more ambitious its scope, the more anxious should its promulgator be.

For instance, to say that a certain word or certain sentiment occurs in Shakespeare may be easy. To say that it does not occur, or that there is no such idea in the whole of literature, is what very few would have the hardihood to maintain.

So much for general principles. Now apply them to Hebrew history.[1]

[1] Incidentally I may here mention certain books which may be found useful. It is not necessary to refer serious students to the works of Scholars, such as Professor Driver, Principal George Adam Smith, and others; but Mr. C. G. Montefiore's

"Bible for Home Reading," is an instructive though rather large book; and mention may be made of a few smaller works: —

History of the Hebrews, by Professor Ottley, published by the Cambridge University Press. An excellent treatise, not adapted to children but very helpful to teachers, and always taking a reasonable point of view.

A recently published volume by the Rev. B. H. Alford (Longmans) also deals with the historical portions of the Old Testament, and with its Literature.

Then there is a book of lectures by Dr. Marcus Dods, delivered in America, published by Scribner under the title, *The Bible, its Origin and Nature.*

A little book by Father Waggett, published by Longmans, called *The Scientific Temper in Religion*, is one in which I am sure many people would be interested.

Two or three other books I might mention, one specifically addressed to teachers by an expert teacher himself (at one time Master of Method at University College, Liverpool).

How to Teach the Bible, by the Rev. A. F. Mitchell (Williams & Norgate).

A quite recent and very thoughtful book about some modern difficulties in Christian Doctrine, called *The Faith and Modern Thought*, by the Rev. W. Temple (Macmillan).

A book of some learning, called *Early Chapters in Genesis*, by Bishop Ryle of Winchester.

And then there is a collection of Bible Readings by Mrs. Romanes, published by Mowbray, definitely intended for children, concerning which I only lack experience to estimate whether it is of value or not, for that purpose, from the trained teacher's point of view; though I feel sure that some parents would find it helpful.

So also they may find useful a simple and unpretentious though not small volume by Miss Davidson (T. Werner Laurie) called *The Old Testament Story told to the Young.* Likewise the *Biblium Innocentium* of Professor Mackail.

CHAPTER III

EARLY HISTORY AND LITERATURE

IN the Old Testament we have the History and Literature of the race from whom Messiah was to be born. We have a record of the development of the Soul of a people; or, inasmuch as they were the leaders of the human race at that time, we may call it the development of the Soul of the human race.

From early times the Hebrews had a presentiment of the greatness in store for them — they felt that in their seed all nations of the earth were to be blessed. I wish to assure you that such veridical presentiments are possible. To them it was given to kindle and uphold the torch of religion through the dark and nascent stages of history. Through evil times and good times they were to keep it alight, till their destiny was accomplished. It was a terrible responsibility, but on the whole they were faithful to their trust. Low though

they fell sometimes, other nations fell lower; and the Hebrew genius for Theology, their instinct for tracing Divine activity in everything, is manifest throughout their literature. Some of their conceptions of Deity in early ages are no doubt childish. Jehovah, for instance, is said to walk in a garden in the cool of the day, as Zeus walked in the garden of the Hesperides,— where likewise bloomed well-guarded apples. But these things are childish in the good sense: they are poetical modes of expression for a reality. Surely from a beautiful garden the Deity is not absent; or, as T. E. Brown the Manx poet says, ' 'Tis very sure God walks in mine.' But the whole poem is short and worth quoting,—

'A garden is a lovesome thing God wot,
Rose plot,
Fringed pool,
Fern'd grot,
The veriest school
Of peace; and yet the fool
Contends that God is not.—
Not God! in gardens! when the eve is cool!
Nay but I have a sign;
'Tis very sure God walks in mine.'

Parenthetically we may observe that the mere form which some of the legends take is instructive. In the garden of the Hesperides, the apples were protected by a sleepless dragon, who physically prevented any attempt at gathering them. In the Hebrew legend the obstacle is of a very different kind,— not physical at all, but moral. Nothing prevents the plucking of the fruit save a command; the apples are easily accessible, and the serpent, so far from protecting them, extols their merits and encourages disobedience. The change, from physical force to moral suasion, whether it be towards good or towards evil, is characteristic.

But in the Old Testament you will recall cases, too numerous indeed, when in the mouths of priests representations of Deity fell far below any reasonable standard of mercy and justice, and when acts of cruelty and deceit were perpetrated in the Divine name. Quite true! At such times man's notions of God were degraded,— records of priestcraft are often painful reading; but at other times, and in the mouths of some of the prophets, the

Hebrew scriptures rise to a magnificence of utterance which no other nation can parallel.

A literature is not all on one level, different parts are naturally of very different values. A history again is not all on one level of excellence, it is full of ups and downs, of failures and successes, of glories and defeats. Heroes of the race are sporadic,— they seem to arrive in groups — and there are intermediate times of spiritual dearth or famine.

Historical documents are often very human, very imperfect, very much influenced by the grade of enlightenment and by the standards of conduct appropriate to the time. If we read them with our eyes on the twentieth century A. D., we shall hopelessly misread. Such an attitude shows a lack of culture, as well as deficient sympathy and curbed imagination. The way to understand history and literature is to place one's self in imagination in the times when it was composed; to know something not only of the people whose history is given, but of the other peoples among whom they lived, and of the hostile influences they had to bear up against and, if it might be, overcome.

Much can we see to blame, much to cause surprise, in the action of ' a chosen people ' at a date three thousand years ago.

Are our own hands then so clean? Imagine posterity three thousand years hence reading our history, our newspapers, our politics; — what will they think of us? They will not place us very high; they may prefer, in some respects, the records of the early Hebrews.

And yet we too are a chosen people. It were blasphemy to deny our birthright and responsibility. Our destiny in the world is no small one; we are peopling great tracts of the earth, and carrying thither our language and our customs. The migration of that primitive tribe, from Ur of the Chaldees, under the leadership of the splendid old chief, Abram, into a land of promise, was an event fraught in the long run with stupendous results for the human race. And are we not migrating to the ends of the earth now, and increasing and multiplying in the promised lands, towards which the tide of civilisation — a civilisation better and happier and holier than ours, I trust — is slowly but surely flooding in?

CHAPTER IV

GENESIS

THE history of the Hebrews proper begins with the patriarch Abraham; and in recording it the writers earnestly emphasized every example of Divine guidance and intervention, as they perceived it. They also, with the interest of children and all early people for origins, collected such information as was available concerning events long antecedent to Abraham, and tried to reconstruct the origin of man, and indeed the origin of all things.

An ambitious attempt! — appropriate to the childhood of the world. Modern science knows nothing of ultimate origins. It never asks the question. It starts with matter in motion; it traces its past, and to some extent its future. It may look backward and forward for millions of years; but to every past, however ancient, there is an antecedent past; and nothing points to a beginning nor to an end. At every point

we can ask: And what before? or, What after?

But a beginning for this terrestial globe, the earth, can be imagined: and at a time when the earth and the universe were practically identical, the beginning of the earth would seem like the beginning of all things. And so a poetic account of the Creation is handed down. It is a representation of certain truths; — that there was gradual development of life on the earth — lower forms first, higher later; that everything depended on the energizing and brooding power of a pre-existent and eternal Divine Spirit; that matter is amenable to thought, design, conception; that everything is controlled by a purpose; that things in themselves, and save as marred by men, are on the whole ' good.'

But then you will say that having accounted for the origin of everything, including a complete human race, a second legend begins, about the infusing of the Divine Spirit into Adam, and the fall. Yes, quite true. On a different level, and with a different purpose, this second, the so-called Prophetic narrative, has a notable meaning of its own; and we may

be grateful to the ancient compilers of Scripture that they preserved both these beautiful documents, and left it for us to understand, and as far as necessary to harmonize them. Both have a truth of their own, both are inspired, and only to a shallow Sciolism are they inconsistent. Neither by itself is complete — they supplement each other — and certainly neither is to be taken as a statement of cold-blooded scientific fact.

Science did not exist in those days. Science as we understand it is a modern growth. Through Science we learn of the Rise of man — a most hopeful doctrine. In Genesis is depicted a Fall,— the beginning of a consciousness of free will, the entrance of sin.

The two are by no means inconsistent; a fall often follows a rise — sometimes as a natural consequence. We have already emphasised this aspect of things in Part I, but a few words of repetition need not here be avoided. It is not difficult to interpret the legend of "Adam." A knowledge of good and evil, a recognition of responsibility — perception of a power of choice — must have dawned upon some early genius of the race,

into whom entered the Divine breath of inspiration; that was the period when 'man became a living soul.'

Until such knowledge and consciousness existed there was no sin — for the essence of sin is error in the light of knowledge,— the state of the nascent human race must have been one of innocency, like the animals.

> 'For the time
> Was Maytime, and as yet no sin was dreamed.'

The whole parable is very consistent with evolutionary science.

CHAPTER V

PROGRESSIVE REVELATION

SCIENCE, as many people understand it, is very far from exhausting the whole truth of things. True as far as it goes, and continually trying to go farther,— that is the attitude of Science. It aims at nothing less than a knowledge of reality. Reality is truly an ambitious quest — not likely to be reached in its fullness by the labours of a century or two; only to be approximated to by the slow and laborious methods of science. Let the ground be made secure and positions acquired duly registered; but bear in mind that Reality is necessarily infinite, and that therefore an infinite scope for discovery and for a larger view of things always lies ahead.

The study of Things, as such, is still in its infancy. In Scottish universities the professorship which deals with the study of classics and pagan literature is called the

Chair of ' Humanity '; in contra-distinction, I presume, to the Chair of ' Divinity.' And now to these great branches of knowledge we have added a third — the study of *things*, of matter and Ether and motion, which may be called ' Reality ' or Science.

There can be no permissible opposition between the aspects of this trinity of knowledge. Reality in its fullness must include not Things alone, but Humanity and Divinity too.

Everything has a real aspect, so only we could grasp it; our best efforts fall how far short! Everything has a human aspect; and that is the largest and oldest mode of regarding things there can be, for us. Everything has a Divine aspect; and in the Hebrew literature an attempt is made to present things from that point of view.

And in it we recognize a gradual Revelation. Gradual, not for the sake of delay or secrecy, but because of the limitation of human faculties. Revelation is as rapid as the race can receive it. There is no artificial withholding of information, but every expression must necessarily be in terms of what can be understood. For instance,— our most recondite

modern conception of the physical Universe is expressible in terms of Ether and Motion. Suppose that a statement in such terms — appropriate to Lord Kelvin let us say — had been made to nomad tribes wandering like Arabs in the desert, while they were going through the effort to found a civilized race among barbarous nations. What mockery it would have been! Would it even have been truth? No, not to them; something much more human was necessary.

So it will always be,— if we are to apprehend God at all, it must be through something anthropomorphic, it must be through some form of Incarnation; must be through the saints and pinnacles of the race.

But this is not all that can be said. The expression of the most advanced modern science is in terms of Ether and Motion. That appears to us to be nearest the truth, and we may suppose that more and more will our present mode of expression improve and become clearer and more definite. But even so will it represent the whole truth? No. It will be our mode of formulating things. It is an advance, a great advance, but it is only one as-

pect after all. Absolute truth is always beyond us. Any one who objects to Genesis, or to any other inspired work, as not containing the whole truth, is talking nonsense. Of course it does not! Let us admit that ideas of Godhead, as held by children and early races, are imperfect and partial: what then? What else have we now? How can ideas of God be anything but imperfect and partial? What will posterity think of our ideas? We have progressed, I hope, but the finite cannot grasp the infinite, and the science of Theology, *can* only mean such conception of Deity as the human race has attained to. One conception is higher than another — none is perfect. Early ideas were very imperfect. Very well, but some were lofty, some magnificent. Here we have recorded the ideas of the nation with the greatest genius for theology; and their character varies from time to time. Some are low; yes, but if we also had recorded the theological ideas of the Hivite, the Hittite, and the Jebusite, among whom they lived, what should we think of *them?*

And it was not theoretical knowledge only that they were imbued with; their task was to

infuse practical conduct with religious emotion,— to weld the two together;— and in the infancy of the race that was no light task.

We are so accustomed to think of religion and morality together — or even as one — that we may fail to grasp the fact that there was a time when they were quite separate. Worship is common to man, but worship may be very far from moral. It usually involves sacrifice and ceremonies and a priesthood, but it may be associated with terrible cruelty and with the most disgusting orgies. The temples of some of the heathen were unspeakable.

To the Israelites it was given, under the guidance of their great leader Moses, to associate together Religion and Morality for all time; and the Ten Commandments are a permanent record of their clear perception of the primary duties of a holy nation. The clauses cover —

Loyalty to Jehovah as the one God;
A pure and non-idolatrous worship;
Reverence for his holy Name and ordinances;
Filial Piety; Purity;
Honesty; Fair Dealing;

Restraint of Greed.

Have we got very far beyond them, even now?

The Law of Sinai declared (says Professor Ottley), in an age when the notion was wholly new and unfamiliar, that religion and morality, truth and righteousness, are vitally and indissolubly connected.

CHAPTER VI

THE PROBLEM OF EVIL

TAKE the Old Testament as a whole. First we have an attempt to solve the problem of existence — the ancient and insoluble problem, how do things come to be. Why is it that anything at all exists?

Existence is attributed to the Word of God, the Logos. God spake. It is represented as the outcome of reason, design, and purpose; and, whether we take it in the first of Genesis or the first of John, we cannot get beyond that even now.

Next it deals with the growth of enlightenment and the entrance of sin — the legend of man's first disobedience, that is of conscious disobedience. Sin appears as the result of knowledge, the result of a rise in development, the perception of good and evil, the consciousness of a power of choice. Nothing more was necessary than the attainment of that stage:

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for when that stage was reached, by a being as yet imperfect, sin necessarily followed. Sin is a heavy price to pay for human progress, but it was inevitable, unless the aim was mere mechanical compulsory perfection. The aim is higher than that; and the conscious effort of humanity, then begun, still continues. We have to learn to do right because we *will*, not because we *must*. We are free agents. We can choose. We know good from evil.

The spirit of the legend is, as we have seen, entirely consistent with the doctrine of evolution; we see the same thing happening in an individual life. A baby scratches the eye of its brother — it does many things disgraceful to adults — it is not held responsible. An age of innocence is far from a state of perfection. The nascent soul, like the nascent race, must pass through a period of struggle and conscious effort; it must develop its own will, and grow into the region of light and knowledge. But with that development the early innocence inevitably ceases, and the possibility of sin enters — sin, which is seeing the better and choosing the worse.

There is nothing that can be called an in-

tellectual ' problem ' about sin, it is a definite and positive reality. Given the possibility of evil, sin is easy to understand, and in so far as there is a problem, it is a problem in Humanity; *humanum est errare.* There is a problem of evil, which is quite a different thing;— that is a problem in Divinity, not in Humanity. The book of Genesis does not deal with that. It is a problem of later date, it is the subject of the poem which we know as the book of Job, and it is often referred to by the prophets. The problem of evil;— why was evil permitted to exist? why is there pain and suffering and death? what is meant by ' the far-off interest of tears '? — I do not know if children ask these questions, I think they belong to a more adult stage, but with certain persons the difficulty so raised is acute; and it has contributed before now to a kind of atheism, or, what is much the same thing, to pessimism.

Yet by a little clear thinking the difficulty disappears. The very fact that it is asked is a sign of latent optimism. In a truly pessimistic Universe there would be no problem of evil, there would be a problem of good,— no problem of sorrow, but a problem of joy. If

everything is as bad as it can be, how comes it that any happiness exists? What is the meaning of beauty, and love, and mutual help, and other forms of goodness? Are these things mere instruments of disguised torment? Are they not essentially good in themselves?

But these questions are not asked. These are not the difficulties that oppress humanity. We ask why is suffering permitted, and thereby imply that joy is the natural condition of life; the opposite is felt to be unnatural, or at least to require explanation.

An explanation is contained in the relativity of all existence; every existence must have its boundary and its negation, contrast and change are of the essence of our perceptions. Up would have no meaning if there were no down; Good would be unintelligible if there were no evil; Force would be unnecessary if there were no inertia.

Here is a point which demands and is worthy of some elaboration. To seize the meaning fully will require some effort. Exertion of force implies a reaction, it does not necessarily imply a resistance. The two are frequently confused, and hence has arisen Manichœism

and many another outcome of confused thought. Action and Reaction are always equal and opposite, but the reaction may be caused in very different ways. A rope may be pulled because it is attached to a massive truck or canal barge, in order to make it advance. A rope may also be pulled because something animate is pulling in the opposite direction. In the latter case there is active resistance, competition, opposing force, obstruction. In the former case there need be no obstruction — nothing but inertia. The pull is just as hard, but there is no organized opposition; the reaction is dependent on the rate of advance, it is directly proportional to the acceleration. It is a sign of progress: it is dynamic, not static.

There are, therefore, two kinds of conflict — the active and the passive kind. Conflict against wilful opposition, on the one hand; conflict against inevitable and inherent difficulties, on the other.

There is a conflict of activity with sluggishness, for instance; and of this character is much Divine expenditure of energy; but it may be mistaken for a conflict with some opposing activity. I do not say that there are no op-

posing activities in the Universe — we know there are. Human beings are not only sluggish and inert, but at times are actively wicked. This is one of the dire privileges of free will. As free beings we have the power to oppose the purposes of the Creator, to retard progress, and to deface his work.

But apart from all such active opposition, effort is still necessary. Progress is not easy. It were blasphemy to say that it is easy. Evolution is not carried on without effort. Much of the effort may be frequently described as a struggle of positive good with negative evil. A struggle as of force against inertia. A conflict as of Heat with Cold, of Light with Darkness. The analogy is suggested in the Old Testament —

> 'I form the light, and create darkness;
> I make peace, and create evil.'

But yet darkness is not really positive, it is not a thing in itself — it is merely the absence of light. Moreover, in its proper place it is a necessity, we could not know of light were there not grades of it; and grades of light are relative darkness. Degrees of darkness

there must be: all high light, and where were the picture? There must be light and shade. No one asks why parts of an engraving are darker than the rest, it is felt to be inevitable and right. May we not similarly say that without evil the Universe would be all high light, a meaningless blank monotony.

Why then do we think of evil as evil? A definite and easily answered question. For perpetual darkness, too, is an evil — to creatures endowed with sight an intolerable evil,— so is any kind of negation or annihilation. *Nothingness* is appalling to a creature, but it is because of high organisation that it is so: not because nothingness is a positive existence or anything in itself. So it is with darkness. Without eyes we should know nothing of it. It is the height of our development that makes it dreadful.

Cold, again, is the absence of heat. The most excessive cold is nothing in itself. Heat is the positive thing, Cold is mere molecular quiescence, stagnation, negation of atomic movement. Yet, to a highly organized being, excessive cold is a dreadful evil, from which we shrink; but again it is the height of our organisation which

makes it evil: it is no evil to stocks and stones.

Are all evils of this negative character? No, they are sometimes positive goods got out of control and out of place, like fire or flood. Disease is of this nature. There is a conflict of disease with health, and disease is to us an unmitigated evil. But what is it in itself? It is not a negation, as cold and darkness are, it is something quite positive — like pain. What we call disease is the growth of a low form of life at the expense of a higher; it is the flourishing of micro-organisms in the blood; it is quite analogous to weeds in a garden, or to parasite and blight. Every form of life, in itself and in its own place, must be evidently good. Anyone who could construct the lowest living organism, a single living cell of animal or plant, would have achieved a miracle. The damaging power of such cells, the reason they are stigmatized as disease-germs, depends on the existence of a higher organism and on their interference with it. They are relatively evil, therefore, when they come into competition with other life. Competition is often evil.

Weeds are plants, and have a beauty and fitness of their own: it is only when they take

the place of something better that they become noxious. Ivy is beautiful enough, but it may strangle an oak. It is things out of place that are bad, not things in themselves. All evil is relative, and its relation is with higher forms of goodness.

To contend that disease is a nonentity and merely imaginary, as some do, is absurd; it is positively and thoroughly bad; but to say that the life of any organization in itself is bad must be untrue. Out of control, however, it may be as dangerous as a tiger. Fire is clearly good in itself — a most beneficent discovery of some early Prometheus of the race,— but fire out of place is deadly and destructive.

And here I shall interpolate for a moment a controversial note.

Any one who wrests this reasonable contention and exposition as to the nature of *evil,* and says that it is a minimising or condoning of *sin* — thus confusing a problem in Divinity with a problem in Humanity — is either ignorantly or purposely misleading his hearers. Misstatements of this kind are not absent from religious periodical literature and from the utterance of militant critics: they should be received with

silence, were it not that such misrepresentations do harm. They are not a fair weapon of controversy.

Sin is man-made and unnecessary evil. It is the planting of tares instead of wheat. It is the act of an enemy. Because we claim that evil is a necessary ingredient in a developing Universe, we admit no condonation or justification for evils which are man-made. Ours is the power to cure, and our conscious freedom has given us full responsibility for whatever is in our control. For this distinction between evil in itself and evil due to wilful wrong-doing we have high authority: —

'It must needs be that offences come, but woe be to that man by whom they come.'

CHAPTER VII

THE HUMAN OUTLOOK

THEOLOGIANS tell us that human nature is intrinsically bad. But human nature necessarily begins in childhood, and in that we are told there is a goodness like that of the Kingdom of Heaven. How much of the supposed evil of human nature is due to artificial and unnecessary conditions? Surely we can see that much of human sin is due to bad conditions and hampering environment; and nearly all of this is man-made. The wretchedness of poverty is no Divine institution, it is the outcome of devil worship. Life as it is, is utterly different from life as it might be. It is defaced by mammon and greed. The hope is that we are still in the morning of the times. The human race is a recent growth upon the earth, and its palmy days lie in the future. But an immense amount of work has to be done. The better future of the race will not arrive auto-

matically, it must be worked for. But the good is there all the time, it is hidden and choked and stunted and fruitless. It is for us to help it to grow.

We cannot bring non-existent good to birth, any more than we can make dead things grow. The germ must be in the things themselves: and higher influences must be at work, too. Plants grow, not because of the gardener, but by their own nature, with the aid of sunshine and air. Without these higher influences we are helpless to make either vegetation or humanity flourish; but we can perform the task of the gardener, we can keep the soil clean, and let in the sunshine and air, we can give all Divine agencies a chance to do their beneficent work. Whatever is beyond our power we must leave; for that we are not responsible.

But here a personal caution! As to our own souls, we are fully responsible. We can at least control them. Let us not seize explanations that can be given for the failures of the race and apply them to our own undoing. We who have attained the gifts of thought, of perception, of clarity of vision,— we are not to be at the mercy of surroundings, however deleteri-

ous their influence may be, and however much they may be pleaded in mitigation of judgment on behalf of the average of mankind. We can be free, not enslaved. ' Give me the man that is not passion's slave,' says Hamlet, ' and I will wear him in my heart, yea, in my heart of hearts.' That is the true dignity of man. Excuses which can be made for the race and for the ignorant herd are no excuse for the enlightened individual,— not for the individual who sees and knows, not for him who realises the talents and the task entrusted to him, and who feels what is expected of him.

> ' Man is his own star, and the soul that can
> Render an honest and a perfect man,
> Commands all light, all influence, all fate;
> Nothing to him falls early or too late;
> Our acts our angels are, or good or ill,
> Our fatal shadows that walk by us still.'

The race has a long struggle before it, and the struggle began long ago. The Old Testament records its early stages, and strangely low at times it seemed to fall. But then, how high it rose! The average land is slowly rising, but the peaks stand out far above it.

The potentiality of the race is shown by what has been already achieved. This also is recorded. In the documents bound together as our Bible is traced the growth of the race from early beginnings to the loftiest Personality we have yet seen. He also is of our race: let no theological subtleties deprive us of that great encouragement.

Here is the record the long pathetic account of the struggle upward of the human race, especially of its strivings toward religious and moral development: up till it culminates in the measure of the fullness of the stature of Christ.

Seen in the light of evolution, the early imperfections, the manifold sins and wickedness, out of which we have emerged, are an encouragement and a hope. These are in our past, not our future. Seeing what we have been, and what we may be, does not indeed reconcile us with what we are, but it gives us hope and encouragement and strength to progress.

Having risen thus far, we may hope to rise further, and to overcome in the course of a few more generations some of the avoidable, the man-made, the terrible evils which now exist —

the slums, the destitution, the workhouses, the prisons,— the unnatural squalor which is the parent of so much of modern evil and sin; all these should gradually cease their tormenting hold upon us.

Effort there must always be, but human effort should be other and higher and nobler than this squalid struggle. That must surely cease; and in the light of the Gospel, by the energies of the brave men and women of the present and the future, our improving condition shall some day develop into an earthly paradise, where the Divine Kingdom shall have really come, and where, by a finer and healthier and happier humanity, the will of God shall be really done on earth as it is done in heaven.

REASON AND BELIEF

PART III

THE SCOPE OF SCIENCE

THE SCOPE OF SCIENCE

CHAPTER I

AIMS AND LIMITATIONS

THE term Science may be used in a narrow or in a broad signification. Sometimes the one is convenient, but always the other is permissible; and if the use of the term in the narrow sense tends to obscure its larger significance, then in that connexion such use must be deprecated.

It is rather commonly supposed that the region amenable to strictly scientific study is a narrow one, and that it by no means embraces, nor will ever embrace, the whole of possible knowledge. A boundary is often drawn between the scientific arena, on the one hand, and the literary, the philosophic, the religious domains on the other. But in truth no such boundary can be drawn; there are no absolute

barriers or discontinuities in nature. Every subject merges into, and has more or less connexion with, every other. It is true that subjects are in very different stages of maturity; more exact and precise knowledge is attainable in some of them than in others. Those subjects which, in a given epoch of the world's history, are susceptible of exact and demonstrative treatment — especially those which are amenable to the alternate analysis and synthesis of the Newtonian method — constitute the citadel of the scientific domain. But there are also sciences which as yet are almost wholly in the stages of observation and classification, and any one of these may develop sooner or later into something more like the deductive stage; as chemistry has within the last century — the discovery not only of new compounds but even of new elements being predicted,— and as biology has begun to show signs of doing under the stimulus supplied by the genius of Darwin and of Mendel.

There can be no doubt that this tendency towards advance from the vague to the definite is a constantly progressive one, and that depart-

ments of human experience now apparently beyond treatment by rigorous methods, will gradually be incorporated and fused in the conquered and explored territory.

Meanwhile they are not shut off from human scrutiny merely because rigid treatment is not yet applicable. They must be treated by methods appropriate to the stage to which our minds have risen with respect to them. No contempt for such methods should be felt, except when they are applied in departments wherein they have already been superseded.

Truth has many channels for entering the mind, and conviction of truth can be attained during moods not of active inquiry only, but of passive receptivity also. Insight is possible, not so much through mental effort as through a wise acquiescence in those intuitions of genius which may rightly be called faith.

Thus does Wordsworth express this experience of direct inspiration —

> Nor less I deem that there are Powers
> Which of themselves our minds impress;
> That we can feed this mind of ours
> In a wise passiveness.'

'Think you, 'mid all this mighty sum
Of things for ever speaking,
That nothing of itself will come,
But we must still be seeking!'

Some there are who regard the scientific advance, or, as they call it, encroachment, upon wild and unexplored territory with dislike, thinking that the process will be death to mystery and will reduce all nature to matter-of-fact and commonplace. In geography it must to some extent be so, since the surface of the earth is limited. But those who realise the infinitude of complexity in the simplest existence, and the way in which the whole of creation is bound together without barriers or boundaries or limitations, forming one continuous and infinite whole, will have no such fear; nor will they think it inappropriate for a scientific man to cast his eyes around, from time to time, to see what new departments of knowledge may be coming within his ken. Indeed they will not hesitate to welcome such advances, and reach out a hand to catch, as best they may, some anticipation of the interest that must thus legitimately accrue to the accumulated wealth of knowledge now within our grasp.

The narrow specializing attitude is useful, and has performed yeoman service — the work of the delver and digger is of the utmost value; —but they must not, through use and wont, gradually acquire the notion that their's is the only method of value, or that the work of the humanist, the inspiration of the poet, the guides available through the intuition and instincts of humanity, are deceitful will-o'-the-wisps which lead to nothing.

There is room for every class of worker; and the men of science themselves may in certain moods raise themselves out of their groove of steady work and look around, as one and another have always done, and tell the world what it is that they see from their point of vantage,— wherever that point of vantage may be, whether on elevated peak or in subterranean cavern. For however it may be regarded by others, still it is their point of view, the place they have attained through severe toil; and it is not only their right but their duty to tell such other workers as will listen what it is that thence they see.

There is nothing new in this contention, it has been urged upon us by one and another of

the leaders of the race; though never frequently, nor with any iteration. It is latent, however, in much of the feeling which is current about the privileges and the limitations of the scientific explorer. Sometimes he is listened to over much, sometimes he is not listened to at all; seldom do his words receive that moderate and reasonable attention which the circumstances demand. And for some of the misapprehension, we must admit that scientific workers themselves have been partly to blame.

As an example of the wholesome adjurations thrown out to them from the department of Letters and Humane learning, I shall take the utterances of Wordsworth, who in Book IV. of *The Excursion* emphasizes the privilege of the man called to exact research — the man endowed with the power and the opportunity for scientific investigation, thus: —

'Happy is he who lives to understand,
Not human nature only, but explores
All natures — to the end that he may find
The law that governs each; and where begins
The union, the partition where, that makes
Kind and degree, among all visible Beings;
The constitutions, powers, and faculties,

Which they inherit,— cannot step beyond,—
And cannot fall beneath; that do assign
To every class its station and its office,
Through all the mighty commonwealth of things;
Up from the creeping plant to sovereign Man.'

But he strongly deprecates the narrowing tendency which such specialised studies may have upon the intelligence, if pursued undeviatingly through a lifetime without any wider and more comprehensive purview. Scientific men, more than others, should keep their mind and senses open to a broader outlook, and to the reception of all that can display itself, or that can by any means be discerned, in the great amphitheatre of truth. It is piteous when higher faculties suffer atrophe through over-specialisation, or when the worker, by dint of too concentrated service, is reduced below his patent of nobility.

'Shall men for whom our age
Unbaffled powers of vision hath prepared,
To explore the world without and world within,
Be joyless as the blind? Ambitious spirits —
Whom earth, at this late season, hath produced
To regulate the moving spheres, and weigh
The planets in the hollow of their hand;

> And they who rather dive than soar, whose pains
> Have solved the elements, or analysed
> The thinking principle — shall they in fact
> Prove a degraded Race?'

Shall they not rather detect in the phenomena of nature more fullness of meaning than can be perceived by others? Shall they not at times read an infinite message even in the stones beneath their feet? Shall not they who 'come forth into the light of things,' and 'let Nature be their teacher,' be stimulated to large perception by the enthusiasm of a discovery, even as others are made receptive of higher truth by a work of art or of music, or as a child may have its imagination kindled and its thought aroused by listening to the murmur of a shell.

It were indeed desperate if the scientific instinct and reasoning habit cut off the connexion between sense and soul, and made the deeper insight impossible: —

> 'The estate of man would be indeed forlorn
> If false conclusions of the reasoning power
> Made the eye blind, and closed the passages
> Through which the ear converses with the heart.'

And Wordsworth goes on to press the question upon each individual, and to ask whether there have not been periods during which a flash of inspiration has been experienced. (Incidentally the emphasis here laid on ' calmness ' as a condition for the reception of inspired thoughts — in unison with Plotinus and Tennyson — is noteworthy) : —

> ' Has not the soul, the being of your life,
> Received a shock of awful consciousness,
> In some calm season.'

If that experience has ever been felt, then although it is true that ' the spirit bloweth as it listeth,' and true likewise that ' in mystery the soul abides,' yet it behoves the scientific man to try to comprehend whence the inspiration comes, and to formulate if he can the laws of its being.

But there is still more that can be said in this direction, and still more emphasis to be laid on the value of intuition and spontaneous thoughts.

It is sometimes surprising to a scientific man, or at least to a youth in the full flush of ardour

for scientific knowledge, how the antique studies of the humanists, and the apparently fantastic utterances of imaginative writers, can possibly conduce to progress or in the long run elevate humanity.

I must confess — even though it sound disgraceful — that long ago I had a sort of inner conviction that devotion to art and letters was a waste of time, that even natural beauty was a distraction, that nothing was worthy of serious attention that did not add to positive knowledge. Fortunately I outgrew this green phase, though I am far from regretting the concentrated enthusiasm which was its origin; it was not altogether a bad phase to pass through, provided it were passed through, for it certainly was not an unproductive or ineffective period: it led to an extraordinary amount of hard work, and strangled for the time any tendency to distraction and multifarious interests.

It is not impertinent to mention this little fact of autobiography, because I realize that at all times a few people are liable to be in that stage — though not perhaps to so pronounced a degree. These are they who pursue knowledge for its own sake and are able to

regard it as an end in itself, just as others pursue and deify Art. Theirs is an instructive and energizing and strenuous belief, which has practical results and is not by any means to be despised — as some who profess a broader view are liable to despise it,— and yet it is not a permanently satisfying attitude, nor one that will stand the test of time or the stress of trouble.

A motive power such belief is: not a firm foundation. For maturer reason cannot but show that the welfare and progress of man must be the real end and aim of knowledge, as of everything else with which we are concerned,— however little such welfare is obviously promoted by any given fact, and however admittedly crude and useless it is to worry the discoverer or the explorer with the question *cui bono*. This is a question to which neither he nor any one else can reply, and which ought not to be asked. He is right to trust his instinct and pursue the truth wherever it may lead.

Nevertheless it must be maintained that human welfare is the ultimate end and aim of everything with which we have to do; and

that such welfare, in the highest sense, may be promoted by many things beside intellectual study of Nature. We do not live by scientific bread alone; ' we live by admiration, hope, and love.'

So if a poet tells us that a vision of beauty or some simple everyday occurrence, even so simple a thing as the unpremeditated song of a bird, has the power of raising the human heart to the perception of Divine things,— if he asserts that such things are of more value to some natures than the profoundest researches, and perhaps that in such natures they accomplish more than any intellectual striving or brilliant discovery can achieve in any person whatever,— it is open to experience of life to demonstrate or to disprove the truth of such a statement.

Not in me, indeed, is the sensitiveness to such influence developed; yet by sympathy I can partially understand, and I would call other scientific students to understand and admit, first, that the uplifting of the spirit of man is the highest claim that can be made for any study, any action, any emotion,— while the fact that it achieves such uplifting is its

highest tribute, its perfect justification; and secondly, that for others — though perhaps not for themselves — channels of Divine grace may be dependent upon refined feeling rather than upon recondite knowledge, and that a message such as that conveyed to Keats by the song of a thrush — however little it appeals to them, and however wise they may be in pursuing the path dictated by their own God-implanted instincts — yet may represent a worthy and a fruitful mood.

'Oh fret not after knowledge. I have none,
And yet my song comes native with the warmth.
Oh fret not after knowledge! I have none,
And yet the Evening listens.'

CHAPTER II

THE USE OF HYPOTHESES

IN the preceding chapter I have addressed my colleagues in science, but I have something to say to men of letters also. A question has from time to time been raised as to the legitimacy of certain methods in scientific procedure, especially as to the legitimacy of hypothesis, *i. e.*, of theory suggested and supported though not yet fully established by fact; and it has even been suggested that in some cases the personal predilections of an explorer have been a more efficient guide than legitimate indications. There are in fact literary critics who either have objected, or who show signs of being ready to object, to the use of working hypotheses as unscientific; — not apparently being aware of the ordinary procedure of a scientific investigator in a new field. Such hypotheses,— set forth to be scrutinised severely from all sides, retained only in so far as they

survive the early tests, and discarded as soon as facts are forthcoming which seriously and not merely superficially discredit them,— are the necessary thread on which facts are linked, the connecting mechanism by which they are treated as a coherent whole instead of a loose and incomprehensible jumble. Such hypotheses are part of our working tools, and when one of them has shown itself superior to all others, it is put forth as a tentative theory, to be enlarged and modified as experience proceeds.

For instance, when dealing with the history of the physical aspect of the Atomic Theory in Chemistry, the Lucasian Professor of Mathematics in the University of Cambridge [1] writes thus concerning the theory of Dalton: —

"In all fundamental advances, the result attained is not so much the vindication of any inflexible experimental fact, as the introduction of an abstract guiding principle into the science, fortified of course by experimental support."

And after developing this in some detail he continues in general and weighty terms: —

[1] Professor Sir Joseph Larmor in his Wilde Lecture at Manchester, 1908.

"While theory is aimless and impotent without experimental check, experiment is dead without some theory passing beyond the limits of ascertained knowledge to control it. Here, as in all parts of natural knowledge, the immediate presumption is strongly in favour of the simplest hypothesis; 'the main support, the unfailing clue, of physical science is the principle that, nature being a rational *cosmos,* phenomena are related on the whole in the manner that reason would anticipate."

Such a pronouncement supports the claim, inevitably though often tacitly made, that the coherent anticipations — the inspirations and even the surmises — of men of genius are of value to an explorer, and are among the phenomena of nature which he will be well advised not wholly to ignore. Indeed he is justified in attempting to utilise them in whatever way is suggested by his own instinct.

And having adopted a working hypothesis as a clue it must be pertinaciously followed up and tested in every possible way. To give up a view too lightly, and at the bidding of every superficially hostile fact, would be childish. Every such fact must be scrutinised and its value ascertained, no such fact must be burked or slurred over. If it is weak and valueless, scrutiny will reveal the weakness,— will reveal very

likely that what at first looked hostile is really in favour of the tested hypothesis, when properly understood.

So it has been, often and often, in the history of science some small perturbation or outstanding error — let us say in the motion of the moon — has seemed before now to throw suspicion on the accuracy of the law of gravitation, and to discredit predictions based on that law; but by taking into account another perturbing circumstance, or some terms in a mathematical series which had been too hastily ignored, or some other neglected fact which did not lie on the surface,— facts which it took some pains and penetration to bring to light, and of which the critical objectors were ignorant,— the law has been confirmed, even by the facts which at first seemed hostile; — and so, in the long run, after passing through the gauntlet of criticism it has been established almost beyond cavil. A philosopher who had stuck to his working hypothesis for years, in face of the outstanding difficulty, because he felt that all the major arguments were on his side,— that they outbalanced the minor objections, and therefore that he could bide his time and hold his judgment in

suspense concerning the hostile facts until they had been thoroughly explored,— that philosopher would in the end be abundantly justified. Hypotheses before now have been abandoned prematurely, and have had to be returned to by another generation. There are hard and difficult cases in science, and sometimes what seems like obstinacy is justifiable; though a more pliant mind is usually a safer, and always a pleasanter and more popular, attitude.

But to say that a scientific man puts forth a theory, and supports it and adheres to it, not because he thinks it true but because he *wishes* it to be true, is the same thing as saying that he is not a seeker after truth at all, and is therefore a traitor to his profession. It is (as I have said elsewhere) equivalent to accusing a Judge of prejudice or a Trustee of peculation. It may be lamentably necessary to make such an accusation sometimes, but it should be made in a serious and responsible manner and not in the ordinary spirit of miscellaneous journalism or casual conversation.

ILLUSTRATIONS OF SCIENTIFIC METHOD

The popular prejudice concerning scientific method is that bare facts alone are to be scrutinised, without any clue or guide, until the true theory appears. Whether such a procedure is desirable or not is hardly worth discussing, for in a matter of any complexity it is impossible; in fact it is probably really and essentially impossible even in the simplest case. No hypothesis is really a part of the facts; each has first to be invented, and then critically examined.[1]

[1] The following sentence accidentally catches my eye in an article by a writer on Radium. The particular subject is unimportant for present purposes. Suffice it to say that it concerns the identity of the immediate "Parent of Radium," as well as the already partially known remoter ancestry, and the better known descendants, of that important substance; which is itself an intermediate element in a notable series of transmutations or disintegrations. Uranium is probably, though not yet certainly, its great-grandparent, Actinium is *possibly* its grandparent, while its immediate parent — not yet named or securely identified — might easily have been mistaken for Thorium, because to chemical tests it is very like that substance; but a theoretical clue pointed away from that identification — Thorium seems to belong to a different family,— and consequently the experiments were scrutinised severely and the error avoided. Had it not been so, Mr. Soddy says,

> "A serious error would have thus crept into the subject and might possibly have caused endless confusion before

But even when hypotheses are ' given ' ready made, or are obvious so that no invention is necessary, tentative discrimination between alternative plausibilities is necessary to progress. How is anyone to choose between two alternative roads — literal roads — except by first speculatively deciding that one of them is most probably right, and then putting it to the test? A few steps along it may show that the guess was wrong, and in that case the steps will be retraced; but unless *something* is done, the traveller may stand at the fork of the roads for hours, in sheer helplessness.

It is evidently thought that to put one hypothesis forward as the most likely, and to follow it for a time to see where it will lead, is to give it an unfair advantage and to show reprehensible credulity. But that is not so. To put a hypothesis forward is to subject it to attack, while the others lurk in the rear, screened for

> being put right. As [it was] however . . . this error was fortunately avoided. This furnishes an argument for the advantages of having a theory to guide the investigator. The disintegration theory indicated a genetic connection between uranium and radium but none between thorium and radium. Sometimes of course the argument is the other way; it is useful occasionally to discard the blinkers of theory and to look round fancy-free."

a time from criticism and making stronger their position, in case the adventurous pioneer, finding himself baffled, returns to his base,— thereby leaving the once prominent but now discarded hypothesis to the mercy of the foe.

People seem to think that when a working hypothesis is being tested, every argument in its favour will receive undue weight, while everything that can tell against it will be shirked. Human nature is fallible, and occasional weakness or partiality may have to be admitted in some cases for a time,— " sometimes one may err on the side of partiality sometimes on the side of impartiality," as an apocryphal civic magnate is reported to have said,— but there exists no real seeker after truth who would not admit that an attitude of unreasoning prejudice, if really persisted in the face of facts, is folly, as well as treason to truth.

Truth seems to be looming ahead only when every new fact, every turn in the road, seems to bear in the right direction, seems to lead nearer the goal. Then the explorer proceeds, encouraged, and in his forward march may sometimes be rightly deaf to the warnings of followers from behind, who, not having travelled

so far along his road, cannot see so much of the way, and are more enamoured of some of the other routes to which friends are calling them.

To say that in a difficult enquiry hypotheses are not to be made, or not to be tested,— to say that no one hypothesis is to be put forward and subjected to the scathing fire of criticism,— is as stupid as it would be to expect any one to solve a dissected puzzle by merely looking at the jumble of pieces laid out plainly for inspection, without handling and trying to fit them into supposed places. A bundle of disconnected facts is only the raw material for an investigation: their mere collection is the very earliest stage in the process; and even while collecting them there is nearly always some system, some plan, some idea under trial. The puzzles set us by nature are not sorted out neatly into boxes, each guaranteed complete in itself; but the contents of several boxes may be mixed.

In selecting a working hypothesis we must proceed by trial and error. To try one clue obstinately, to be blind to every other, to listen to no reason, is akin to lunacy. To try several,

and at last to perceive the probabilities in favour of one of them, to pursue that one into all its consequences and ramifications till it is either verified or discredited,— that is scientific procedure. Let no one suppose that this exhausts scientific procedure. It is the right procedure in a new and unknown field; it was the method of Kepler, and it served as the foundation on which a rigorous demonstration could be subsequently built. It is the right method for a science at an early stage in its history, it is not the method appropriate to deduction from known laws, nor is it the method of analysis and subsequent synthesis initiated by Newton. There are subjects in a stage at which this latter process is applicable; and there are subjects not yet ripe for that kind of treatment. These last have to be treated by hypothesis based upon and tested by experiment. The Newtonian era in psychical science has not yet dawned.

It is sometimes thought that Newton never employed any method but that of analysis and synthesis, or induction and deduction. These were indeed his favourite tools, for he was working at the foundation of Natural Philosophy,

and the subject was tractable in this way by his astounding genius,— but he by no means disdained the aid of other methods when the first were inapplicable; and the other method he regarded as preparing the ground for subsequent treatment by more rigorous processes,— as shall be evidenced by quotation.

I select the following illustrative sentences from the third book of the Principia; beginning with a surmise about the internal heat of the earth.

"The heat (*calor*) of boiling water is about 3 times greater than the heat which dry earth acquires from the summer-sun, as I have tried; and the heat of red hot iron (if my conjecture is right, *si recte conjector*) is about three or four times greater than the heat of boiling water."

(Parenthetically we may notice that the latter statement, based on conjecture, is — if the word *calor* be translated "absolute temperature," a phrase that could not have been used in Newton's day — much nearer the truth than the statement preceding it, which is supposed to have been ascertained by observation.)

After speaking of the cooling of sundry moderate sized iron globes, he continues,—

'A globe of red hot iron equal to our earth, that is, about 40,000,000 feet in diameter, would scarcely cool in . . . above 50,000 years. But I suspect (*suspicor tamen*) that the duration of the heat may, on account of some latent causes, increase in a yet less proportion than that of the diameter; and I should be glad that the true proportion was investigated by experiments.'

The meaning is obscure, but it seems to point to a suspicion that something other than mere conduction of heat may control the cooling of the earth — a suspicion, if it existed, which modern discovery has strangely justified.

The phenomena of comets' tails, so well described and illustrated by diagrams in the *Principia,* was a very appropriate subject for hypothesis: — so, after adducing those of Kepler and others he indicates his own surmise that the ascent of the tails of comets from their heads proceeds from the rarefaction of the matter of the comets' tails, like the rise of smoke from a chimney. And then he goes on to a very curious speculation that the tails of comets may supply the earth's atmosphere with some ingredient which is important and which would otherwise be lacking. We cannot say for certain that there is no sort of truth in this, even

now; though the ingredient is certainly not what we now call oxygen, and though the necessary recuperation of the atmosphere damaged by animal life was proved later, by Joseph Priestly, to be effected by vegetation and sunlight.

This is what Newton says,—

'It seems reasonable (*rationi consentaneum videtur*) that the vapour [of comets' tails], thus perpetually rarefied and dilated, may be at last dissipated and scattered through the whole heavens, and be gradually attracted towards the planets by its gravity, and mixed with their atmosphere; for as the seas are absolutely necessary to the constitution of our earth . . . so for the conservation of the seas and fluids of the planets comets seem to be required. . . . I suspect, moreover, that it is chiefly from comets that that spirit comes which is indeed the smallest but the most subtle and useful part of our air, and so much required to sustain the life of all things with us.'

So, clearly, whenever hypothesis were appropriate Newton did not hesitate to make them. Indeed gravitation itself was originally an hypothesis — a guess, a flash of insight, in his mind; though the fact that an attracting force of some kind, varying as the inverse square of the distance from the sun, was acting on all

the planets, could be demonstrated quite easily by Kepler's third law. (The same deduction for any one planet, from the first law or shape of its orbit, is not so simple; nor is it so general. The deduction from the second law about equable description of areas, that they are acted on by a force directed to the sun, is easy and rigorous.)

A pure Mathematician has told me, what I should certainly have expected, that even purely mathematical theorems are not arrived at in the first instance by a method of demonstration. They arise in the mind as a flash, an idea, an inspiration; and much subsequent labour may be necessary before they are established and rigorously proved. Sometimes indeed the attainment of a complete proof is the work of generations.

Newton had an extraordinary faculty for guessing correctly, sometimes with no apparent data,— as for instance his intuition that the mean density of the earth was probably between 5 and 6 times that of water; while we now know it is really about 5½,— and he concludes his "Optics" with a whole string of sagacious Queries, every one of which is an untested or

incompletely tested hypothesis or speculation. Some of these were sheer guesses, such as were not likely for a long time to be put to the test of experiment,— many of them indeed not so tested even yet.

Qu. 5. Do not Bodies and Light act mutually upon one another; that is to say, Bodies upon Light, in emitting, reflecting, refracting and inflecting it; and Light upon Bodies, for heating them, and putting their hearts into a vibrating motion wherein heat consists?

Qu. 29. Are not the Rays of Light very small Bodies emitted from shining Substances? For such Bodies will pass through uniform Mediums in right Lines without bending into the Shadow, which is the Nature of the Rays of Light. . . .

Qu. 31. Have not the small Particles of Bodies certain Powers, Virtues, or Forces, by which they act at a distance, not only upon the Rays of Light for reflecting, refracting and inflecting them, but also upon one another for producing a great Part of the Phenomena of Nature? . . .

But because the method by speculation had been needlessly prominent in the past, even in Natural Philosophy, and because he now perceived that in such comparatively simple or well-worn subjects as the Foundation of Mechanics and the motion of the heavenly bodies

there was a more excellent way, he deeply resented the idea that in his beautiful mathematical inductions and deductions he was merely making haphazard guesses, with the idea of subsequently confirming them. He considered his theory absolutely established by fact, and he deduced from his theory more fact, which likewise he considered absolutely established; subject only to the risk of error or oversight. He would probably have admitted that by reason of this risk they still needed to be thoroughly tested and confirmed by detailed experience,— like all other results of human reasoning.

In the course of this work, or rather at the conclusion of its more rigorous and mathematical portion, he interjected that much misunderstood and misapplied sentence, "*Hypotheses non fingo*;"— a sentence which is often interpreted as implying that he denied to himself the right of making hypotheses. As if he had said "Hypotheses I do not make," or "I never make."

If he had said this, it would have been a transparent falsehood, too absurd for such a misconception of his meaning to be even sus-

pected by him. What he meant and what he said was "I am not making hypotheses"— meaning that they would be out of place then and in that connexion — I am deducing theorems by logically accurate and severe methods, — we may imagine him saying — and expounding them in strict synthetic form. Do not run away with the notion that these are guesses. I am laying down the Principles of Natural Philosophy in mathematical and exact fashion, welding things together into one coherent whole, making an exact mechanical scheme which I will shortly apply in my concluding volume to "The System of the World." Hypotheses, in what I am now doing, would be unnecessary and out of place; and in a more perfect state of knowledge they may cease to be necessary altogether.

"For all the difficulty of philosophy seems to consist in this — from the phenomena of motions to investigate the forces of nature, and from these forces to demonstrate other phenomena;" . . . and I would that it were possible to deal with all other parts of Nature in the same way, and to derive all other phenomena by reasoning from mechanical principles;

" for I am induced by many reasons to suspect that they may all depend upon certain forces by which the particles of bodies, by some causes hitherto unknown, are either mutually impelled together so as to cohere in regular figures or are repelled and driven apart " . . .

This is an expansion of Newton's phrase *Hypotheses non fingo*, interpreted in the light of other parts of his work.

And as a further illustration of some of the hypotheses which we find, even in the *Principia* itself, concerning things which could not at that time be demonstrated or dealt with by mathematical methods, I will instance two,— one concerning the Ether of Space, and one concerning God.

Concerning the Ether, his statement runs in this style: —

'And now we might add something concerning a certain most subtle Spirit which pervades and lies hid in all gross bodies; by the force and action of which Spirit the particles of bodies mutually attract one another at near distances, and cohere, if contiguous; and electric bodies operate to greater distances, as well repelling as attracting the neighbouring corpuscles; and light is emitted, reflected, refracted, inflected, and heats bodies; and

all sensation is excited, and the members of animal bodies move at the command of the will, namely, by the vibrations of this Spirit, mutually propagated along the solid filaments of the nerves, from the outward organs of sense to the brain, and from the brain into the muscles. But these are things that cannot be explained in few words, nor are we furnished with that sufficiency of experiments which is required to an accurate determination and demonstration of the laws by which this electric and elastic Spirit operates.'

Finally, his statement concerning the Deity runs thus: —

'And from his true dominion it follows that the true God is a living, intelligent and powerful Being; and, from his other perfections, that he is supreme, or most perfect. He is eternal and infinite, omnipotent and omniscient; that is, his duration reaches from eternity to eternity; his presence from infinity to infinity; he governs all things, and knows all things that are or can be done. He is not eternity or infinity, but eternal and infinite; he is not duration or space, but he endures and is present. He endures for ever, and is every where present; and by existing always and every where, he constitutes duration and space. Since every particle of space is *always,* and every indivisible moment of duration is *every where,* certainly the Maker and Lord of all things cannot be *never and no where.* Every soul that has perception is, though in different times and in different organs of sense and mo-

tion, still the same indivisible person. There are given successive parts in duration, co-existent parts in space, but neither the one nor the other in the person of a man, or his thinking principle; and much less can they be found in the thinking substance of God. Every man, so far as he is a thing that has perception, is one and the same man during his whole life, in all and each of his organs of sense. God is the same God, always and every where.'

Hence as a Physicist, justifying his procedure as far as may be by the example of Newton, I think it not inappropriate to reach beyond the range of the physical and demonstrable, to a region where experience gained in those departments of knowledge may be genuinely serviceable. And although strict and positive certainty is as yet unattainable, and possibly may remain unattainable for centuries in the future as it has already been through the ages of the past, yet some approximation to the truth may be gradually made by utilising every indication and stretching our human faculties to the utmost.

CHAPTER III

THE APPEAL TO LITERATURE

REVIEWERS may admit the right of a student of Science to survey the facts which have come under his scrutiny, and from their contemplation to formulate a theory which to him appears most likely to be true; they may also allow him the right to state it in such a way that it can be understood, without at the same time constantly protruding technical details,— which are best left to be studied in the publications of scientific societies. All this they might admit, and yet contend that he had no right to quote poets or men of letters in support of his hypothesis.

'You may hold an atomic theory'— such critics might be supposed to say —'but you must not quote Lucretius. You may hold a view concerning Oracles, but must not quote Virgil. Or an opinion about Immortality, but must not quote Tennyson or Wordsworth.'

If that contention is ever urged, I demur to the conclusion, though not to the spirit in which it is conceived.

What is true is that the utterances of poets are not part of the facts that can be appealed to in support of a thesis,— except in so far as their evident reasonableness carries with them a conviction of truth. Nevertheless the intuitions of genius must not be ignored. There are facts relating to human nature, and to the relation between man and the rest of the Universe, concerning which poets and prophets —*humanists*, in fact, in the widest sense — are the best and indeed almost the only guides. To them seem to come whisperings which have been likened to the murmur of a shell held to the ear of a child,— reverberations and intensifications of sounds too faint for the unaided ear.

> 'Even such a shell the universe itself
> Is to the ear of faith; and there are times
> I doubt not, when to you it doth impart
> Authentic tidings of invisible things.'

The sanction for their statements and deductions is to be found in the hearer's own experience and consciousness; and the perfect

form in which their utterances are enshrined is of the utmost value in securing or arousing general attention.

Moreover, however much or little intrinsic value their opinions may possess, they at least represent the views of previous explorers in the domain of humanity. And, surely, if it be found that previous workers were on the right track, and have given utterance to statements which you subsequently find to be confirmed by your own quite different and independent investigations, it is only seemly to call attention to their rightness and inspiration. Indeed, it would be less than moral to refrain from doing so.

If it be urged that seers are not scientific workers,— that they employ alien methods,— I agree that their methods are different, but not that they are alien. Science, in a narrow sense, is by no means the only way of arriving at truth — especially not at truth concerning human nature. To decline to be informed by the great seers and prophets of the past, and to depend solely on a limited class of workers such as have been bred chiefly within the last century or two, would savour

of a pitiful narrowness, and would be truly and in the largest sense unscientific.

The insight of great men is of the highest value; and though selection must undoubtedly be made, and though only those are quoted which agree with the thoughts of the quoter, yet that is exactly what is done with the work of all pioneers. Those who are supposed to have gone wrong are eliminated and ignored; those who appear to have gone right are selected and acclaimed. Little merit there is in that procedure, nor any shame. Truth is large, and can be explored by many avenues. All honour to those who, with insufficient experience but with the inspiration of genius, caught glimpses of a larger and higher truth than was known to the age in which they lived, and who had the felicity of recording their inspirations in musical and immortal words; — words such as the worker in science has not at his command — words at which he rejoices when he encounters them, and which he quotes because they have given him pleasure.

Let this serve as excuse and sufficient justification for the large number of quotations already utilized.

REFERENCES TO QUOTATIONS

The following references may be convenient to a few readers, but I must apologise for the obviousness of some of them. In a previous book, *The Substance of Faith*, wherein I gave a page of similar references, I abstained from specifically mentioning quotations from the New Testament,— which in that book happened to be numerous,— thinking that they were too well known. In these days, however, it appears that no such assumption is safe; and several reviewers asserted, what presumably appeared to them to be a fact, that while pagan writers and the Old Testament were freely quoted, the New Testament was never referred to. So I have tried to guard against that misapprehension.

REFERENCE TO QUOTATIONS

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7.	'His life is a watch.'	Swinburne, *Atalanta in Calydon.*
8.	'He that hath found.'	Vaughan (1621–1695), *Beyond the Veil* (quoted in Dr. Ward's *English Poets*, vol. ii.).
9.	'To drop head foremost.'	Tennyson, *In Memoriam*, xxxiv.
10.	'Eternal form shall still divide.'	Tennyson, *In Memoriam*, xlvii.
10.	'We lose ourselves in light.'	" "
11.	'I am not what I have.'	Christina Rossetti, *The Thread of Life.*
12.	'I am a part of all that I have met.'	Tennyson, *Ulysses.*
13.	'Some have gleams.'	Tennyson, *Ancient Sage.*
13.	'Is it that in some bright sphere.'	Shelley, *Fragment.*
14.	'Obstinate questionings.'	Wordsworth, *Immortality.*
14.	'For oft on me when boy.'	Tennyson, *Ancient Sage.*
14.	'Happy those early days.'	Henry Vaughan, *The Retreat.*
15.	'Surely before this descent.'	Myers, *Hum. Pers.*, ii. 289.
15.	'When from that world.'	Myers, *Fragments of Prose and Poetry.*

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16.	'Out of the deep.'	Tennyson, *De Profundis.*
17.	'So rounds he.'	Tennyson, *In Memoriam,* xlv.
17.	'The house of a brute.'	Tennyson, *By an Evolutionist.*
18.	'Hints and previsions.'	Browning, *Paracelsus.*
18.	'It is finished, man is made.'	Tennyson, *The Making of Man.*
19.	'Through such fierce hours.'	Myers, *Fragments.*
20.	'Oh dear Spirit.'	Tennyson, *De Profundis.*
21.	'Souls shall climb fast.'	Myers, *To Tennyson.*
21.	'Full lasting is the song.'	Meredith, *The Thrush in February.*
22.	'Earthly house.'	2 Cor. v. 1.
23.	'But he forgets the days.'	Tennyson, *In Memoriam,* xliv.
24.	'As old mythologies.'	Tennyson, *Two Voices.*
25.	'So be it: there no shade!'	Tennyson, *In Memoriam,* xlvi.
25.	'We are such stuff.'	Shakespeare, *Tempest.*
26.	'Our birth is but a sleep.'	Wordsworth, *Immortality.*
27.	'The man who man would be.'	Shelley.
29.	'And first a glimmering.'	Myers, *Fragments.*
30.	'Many there be.'	Milton, *Areopagitica.*
31.	'Oh who is he.'	Wordsworth, *The Prelude.*
34.	'But when so sad.	Francis Thompson, *In No Strange Land.*
35.	'The second man.'	1 *Corinthians* xv. 47.
37.	'And so the Word.'	*In Memoriam,* xxxvi.
38.	'In the beginning.'	*Genesis* i.; *John* i.

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40.	'Lo for the dawn.'	Myers, *St. Paul.*
40.	'The earth is full of darkness.	*Psalm* lxxiv. (Anglican Prayer Book).
40.	'Dark is the world to thee.'	Tennyson, *The Higher Pantheism.*
41.	'And lo, Christ walking on the water.'	Francis Thompson, *In No Strange Land.*
42.	'No sudden heaven.'	Tennyson, *The Ring.*
42.	'The voices of the day.'	" "
43.	'Would I suffer.'	Browning, *Saul.*
45.	'And this gray spirit.'	Tennyson, *Ulysses.*
46.	'Nay but she aims not at glory.'	Tennyson, *Wages.*
46.	'To strive, to seek, to find.'	Tennyson, *Ulysses.*
46.	'How dull it is to pause.'	" "
47.	'Oh roughly strongly.'	Myers, *Renewal of Youth.*
47.	'Before the beginning of years.'	Swinburne, *Atalanta in Calydon.*
48.	'Such devotion.'	Myers, *Human Personality*, ii. 291.
49.	'Imaginations calm and fair.'	*In Memoriam* xciv.
50.	'The path we came by.'	" xlvi.
51.	'To fill up what is behind.'	*Col.* i. 24.
52.	'The joy of their lord.'	*Matthew* xxv. 21.
52.	'The kingdom prepared for you.'	*Matthew* xxv. 34.
52.	'A beauty with defect.'	Tennyson, *Ancient Sage.*
53.	'Say could aught else.'	Myers, *The Renewal of Youth.*

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56.	'Eloi Eloi.'	*Psalm* xxii.
56.	'Nay but thou knewest us.'	Myers, *St. Paul.*
57.	'Earthen vessels.'	2 *Cor.* iv. 7; *Judges* vii. 16.
57.	'Oh to have watched thee.'	Myers, *St. Paul.*
57.	'All things that I have heard.'	*John* xv. 15.
58.	'God who at sundry times.'	*Hebrews* i.
60.	'The acceptable year of the Lord.'	*Isaiah* lxi.
60.	'This day is this Scripture.'	*Luke* iv.
61.	'I that speak unto thee.'	*John* iv.
63.	'Soul that in some high world.'	Myers, *Fragments.*
64.	'Behoved it not.'	*Luke* xxiv.
64.	'Your father Abraham.'	*John* viii.
79.	'That orbèd maiden.'	Shelley, *The Cloud.*
80.	'What when the sun rises.'	William Blake.
82.	'Every common bush.'	E. B. Browning.
87.	'A garden is a lovesome thing.'	T. E. Brown, *My Garden.*
94.	'For the time was May-time.'	Tennyson, *Idylls.*
103.	'The far off interest of tears.'	Tennyson, *In Memoriam.*
106.	'I form the light.'	*Isaiah* xlv. 7.
110.	'It must needs be.'	*Luke* xvii. 1; *Matt.* xviii. 7.

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113.	'Man is his own star.'	Fletcher (1579–1625).
121.	'Nor less I deem.'	Wordsworth, *Expostulation and Reply.*
124.	'Happy is he.'	Wordsworth, *Excursion IV.*
125.	'Shall men for whom.'	" "
126.	'The estate of man.'	" "
127.	'Has not the soul.'	" "
127.	'In mystery the soul abides.'	M. Arnold, *Morality.*
130.	'We live by admiration, hope and love.'	Wordsworth, *Excursion.*
131.	'Oh fret not after knowledge.'	Keats, *Fragment in a letter.*
153.	'Even such a shell.'	Wordsworth, *Excursion IV.*

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